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THE HEALTH MAGAZINE

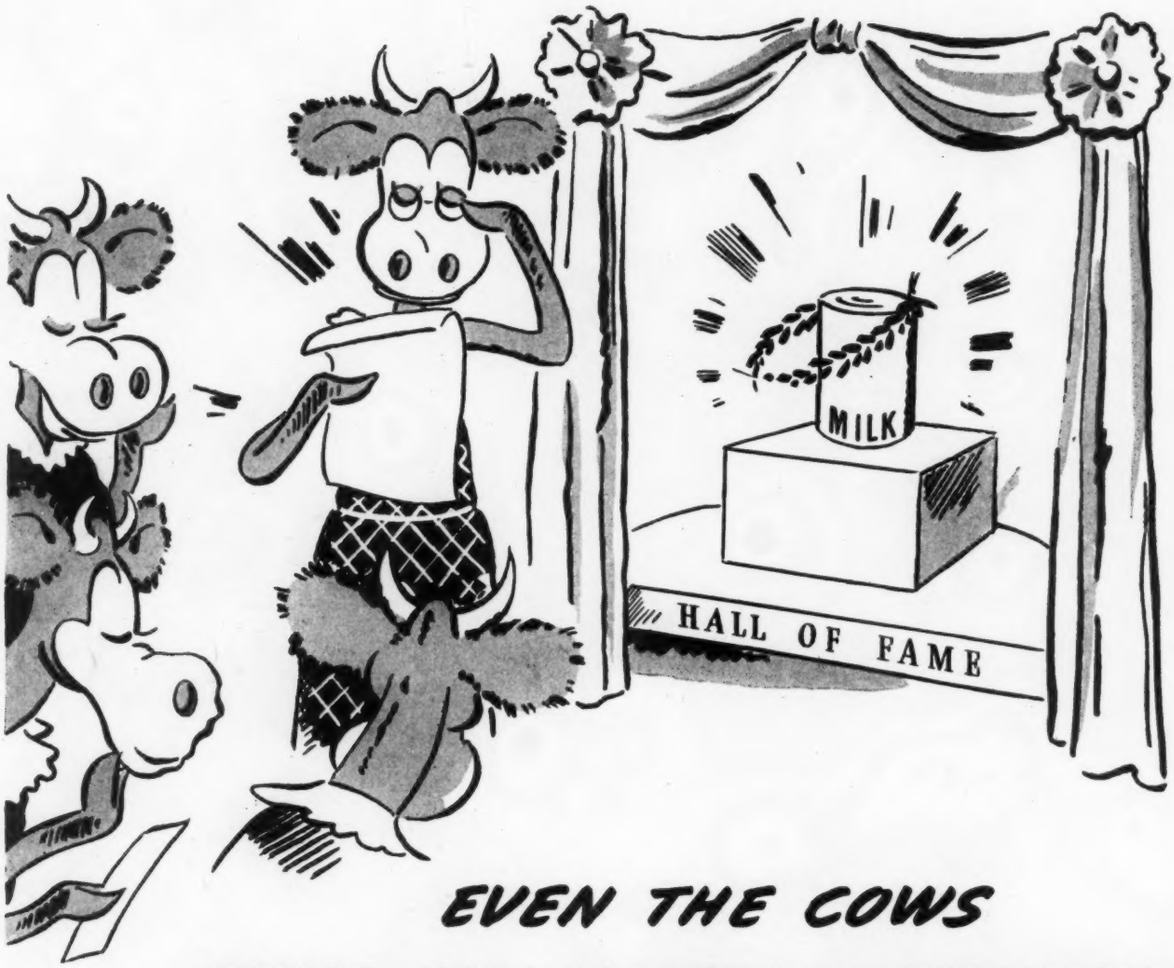
HYGEIA

Should Cousins Marry? — *See page 98*

STOP ANNOYING YOUR CHILD! • X-RAYS

CANCER • WHAT LIGHT FOR THE EYES?

AN AMERICAN MEDICAL ASSOCIATION PUBLICATION



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NUTRITION AND HUMAN WELFARE

By SIR FREDERICK GOWLAND HOPKINS, PRES. ROYAL SOCIETY

WHILE the health, the capacity, and the effective activities, alike of a race and of an individual, are primarily determined by inherited factors, all are secondarily influenced by the environment in which the race or individual has developed and exists. * * * It is sure that there is always a relation between the qualities of its basal foodstuffs and the effective activities of a race, a circumstance which it is of sociological and ethnological importance to recognize. During the whole of history the needs of nutrition and the kind and amount of foods geographically available have played a great part in determining the destiny of races. Inadequacy in the supply has in some cases stunted innate capacities and led to the degeneration of a race; more generally in the past it has stimulated effort and led to migrations and wars of aggression.

It is often felt that concerning matters so urgent as its own nutrition, humanity, with all the experience of the ages behind it, can have little to learn from modern science, yet, as in the case of so many other established traditions, an assumption of this kind is wholly unjustified. Tradition accumulates prejudices quite as often as truths, and the former are apt to be more potent in their influence. With sufficient space it would be easy to show that faulty nutrition has played a large part in inhibiting human progress, and even to show that few races have at any time been ideally nourished. One need not go far back in history to illustrate this. In the most prosperous days of the Victorian era the methods of infant feeding in this country were exceedingly faulty, and had dire results. When the food supplies of existing native races are studied they are often found to be so deficient in certain essentials as to limit the productive capacity of the races in question.

That scientific research during recent years has greatly emphasized the importance of right nutrition as a factor in human welfare is very sure. Anyone indeed who troubles to compare even the recent past with the present will realize that research has wholly changed the outlook in the domain of nutrition. Only a couple of generations ago it was supposed that a community in which the crude appetite of all individuals is duly satisfied, and obvious starvation avoided, is a community adequately nourished. Ill-health and inadequate performance in such a community must, it was assumed, be due to causes in which nutrition has no part. We now know that the satisfaction of appetites by mere bulk consumption is no final proof that a food supply is adequate, and this is as true of the animals which we breed for our uses as it is of ourselves. Quality in food is at least as important as quantity; details are of the utmost significance; the absence of factors which add almost nothing to the bulk of a dietary may make the whole entirely inadequate. We know now that conditions recognized as actual diseases develop because the supply of some minute nutritional necessity has failed, while, short of obvious disease, ill-health may depend upon a lesser degree of such a deficiency. Lack of substances of which the necessary amount is equally small may be responsible for failure of proper growth in the young, and for loss of fertility in the adult. Recent observations seem even to have shown that fundamental instincts, such as maternal care for the progeny, may, in animals at least, be affected by the absence of a factor from the diet! In all individuals such a lack may greatly increase the liability to infection by bacteria and other parasites. Facts such as these are already established. There are countless others to be discovered.

The earlier scientific studies which dealt with accurate measurements of the energy value of human dietaries or animal rations provided data of fundamental and permanent value, for once a ration has been properly balanced in detail its fuel value becomes a measure of its adequacy. Studies of the kind must and will continue; but the conditions in which such determinations have hitherto been made were not such as to reveal the great importance of those minor but essential factors of which the lack has such profound effects. The appraisement of the importance of each and all of these factors (for they are certainly many) has called for a different type of experiment involving a technique which is now rapidly growing in accuracy and reliability.

We now know as a result of properly controlled observations and experiments that the animal body may suffer, on the lines already mentioned, from deficiencies alike in the supply of minerals and in the supply of subtle organic factors.

SIR FREDERICK GOWLAND HOPKINS

Professor of Biochemistry at the University of Cambridge and Trinity College, Sir Frederick was recently awarded the Nobel Prize for his pioneer recognition of the existence and significance of vitamins in nutrition. So numerous and so outstanding have been Sir Frederick's contributions to the science of nutrition that *The Scientific Monthly* feels that "the award might have been made to him on any one of a great variety of bases."

An adequate provision, for instance, of lime, magnesium and iron, to think only of familiar substances, is as essential as any other aspects of nutrition, and what is significant is that human dietaries and no less animal rations, pastures, and crops grown for feeding stock, may be deficient in these fundamentals, and so lead to untoward results which have hitherto escaped proper evaluation. We are learning, moreover, of unexpected mineral needs; even metals such as copper and manganese are apparently essential to the animal body, though, of course, in very small amounts. Of the substances which we have come to call vitamins there are certainly many, and a supply of each one is necessary because each exercises its own quite specific functions in the body. Modern studies are making it clear indeed that nutritional needs are in reality very complex; so complex that the results of these studies sometimes awaken scepticism among those who have not appraised the evidence. They are conclusive, however, to those who have seen them at first-hand. To keep abreast with current gains in knowledge of the kind cannot but be profitable to a wide public apart from those who are directly concerned with research.—*Extract from Foreword to first issue of Nutrition Abstracts and Reviews, October, 1931.*

The Progress of Nutrition As a Science

Editorial, Journal of the American Medical Association, January 16th, 1931.

"The advance in our knowledge of nutrition represents one of the most significant factors for the welfare of mankind that have developed in recent years. . . . Most people take it for granted that the type of human being that constitutes what is called a normal man today is the best type of human being that can be produced, notwithstanding the fact that careful breeding and scientific housing and feeding of animals enable the breeder to develop superlative stock. . . . When the majority of human beings have sufficient knowledge to appreciate the true import of the many factors already established as of importance in nutrition, much good will have been accomplished for mankind in general.

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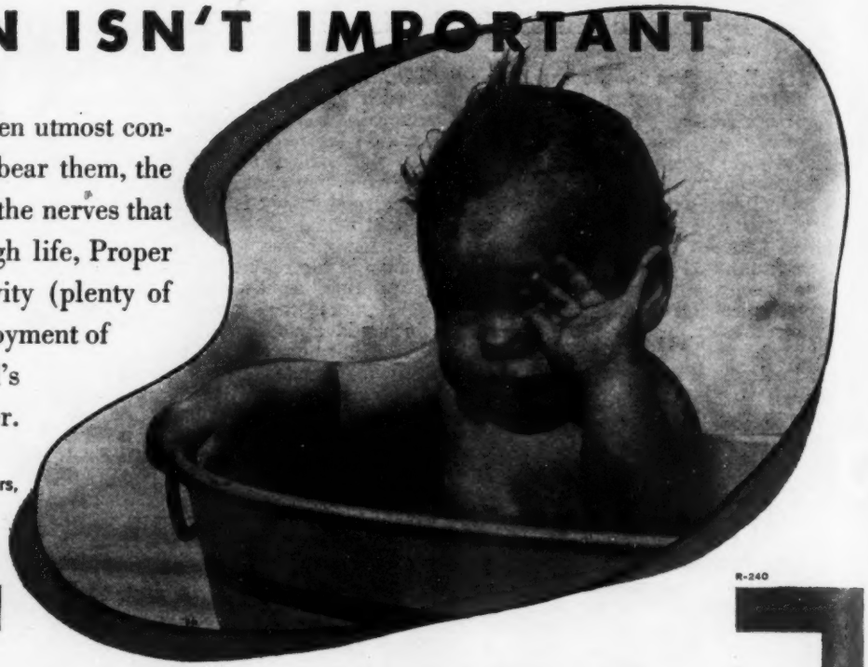

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NOVEMBER 1937 Vol. 15 No. 11

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1937, by the American Medical Association. Edited by Morris Fishbein, M.D.

PRESENTING

C. O. JACKSON, assistant professor of physical education, University of Illinois, who after making an extensive survey of the health and sanitary practices in high school athletics, came to the conclusion that "something ought to be done about it"—and then proceeded to do that something by setting forth the startling results of that study.

PAUL S. BARRETT, M.D., and J. C. GEIGER, M.D., of the Department of Public Health, City and County of San Francisco, who, in a discussion of household hygiene, show that cleanliness, like charity, should begin at home—but that, unfortunately, it doesn't; for many of the cleaning methods commonly employed today have been proved antiquated and ineffectual. Here is a challenge to the American housewife which, in the interests of her family's health, she dares not ignore.

MARTIN A. FURMAN, M.D., instructor in otolaryngology, College of Physicians and Surgeons, Columbia University, who gives rules for the prevention of deafness and the conservation of hearing and brings the encouraging message that the old feeling of "deaf and done for" has changed to "hard of hearing and hopeful."

ELLEN S. WOODWARD, assistant administrator, Works Progress Administration, who gives salient facts on the cooperative project of the school authorities and the W. P. A. in administering to undernourished school children and tells how their combined efforts are helping underprivileged children of the present to grow into useful, healthy citizens of the future.

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"LET'S LOOK at the Winter HEALTH BUDGET!"

DEBIT:

(Often due to neglect and lack of information)

HEADACHES FATIGUE
EYE STRAIN COLDS
TOOTHACHE CONSTIPATION EXCESS WEIGHT
INFLUENZA PNEUMONIA MEASLES SCARLET FEVER WHOOPING COUGH RHEUMATISM
ARTHRITIS HEART TROUBLE CANCER
DIABETES SMALLPOX AND DIPHTHERIA

CREDIT

Making the health budget balance is important at every Season—but old man winter has a way of putting some extra heavy drains on the family health and pocket-book, unless we plan ahead!

Right now is a good time to take stock of the winter hazards listed at the left. Then, for information on how to help avoid them, and what can be done for them, read HYGEIA, the Health Magazine, every month. Subscribing to HYGEIA is like having the latest authentic Bulletin from the Health Front! Use the coupon.

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"SLIMMING SCIENTIFICALLY"—"RECONSTRUCTING THE MALADJUSTED CHILD"—"FIRST AID IN THE SNOW"—"CORRECT SHOES"—"ELECTRIC CURE-ALLS"—"DIPHTHERIA"—"TOYS FOR CHILDREN"—"AIR CONDITIONING"—"ARTHRITIS"—"BAD HABITS IN GOOD BABIES"—"I'M NOT AFRAID OF CANCER"—"WHY DO TEETH DECAY?"—"WATCH YOUR EYES"—"THE CHOICE OF A MARRIAGE MATE"

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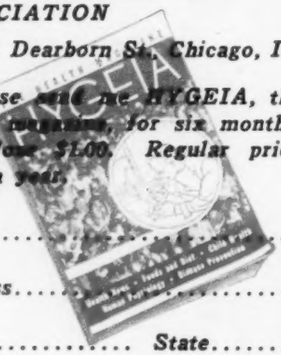

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THE HOUSE THAT STOPPED BEING A HOME

THIS HOUSE stopped being a home right after dinner last night.

At that time the mother collapsed. Now she lies in her bed upstairs and an unhappy hush has taken hold of the entire house. For without the mother and the mother's ministrations, home simply is not home. Around her, the whole life of the family revolves.

The realization that she is the one upon whom the home most depends, too often leads to pathetic situations like the one pictured here. Conscious of her responsibility, any woman is likely to keep on, on, and on—despite inner warnings that all is not well.

• • •

Such warnings come to most women as early as their middle 30's.

For even then, long before menopause, is a period of transition from youth to mid-life . . . a period that decides whether the years before you will be golden, fruitful years, or gray, depressing years . . . a period that determines whether you will *continue* to be the one around whom the life of your family revolves.

The years ahead *can* be the happiest of your whole life. But to make them that, it is essential that you put your physical house in order. And the best way to do it is to see your doctor.

He is the one person who can make an accurate inventory of your physical assets and a correct estimate of your physical needs. He can tell you how to strengthen your physical defenses if they need strengthening. He may be able to give you back much of the precious youth that has been slipping from you and to help you get *more* rather than less out of life in the years before you.

So see your doctor—and see him promptly. It is perhaps the most important step you can take toward keeping your youth, keeping your happiness, and guarding the happiness of those you love. Copyright 1937—Parke, Davis & Co.

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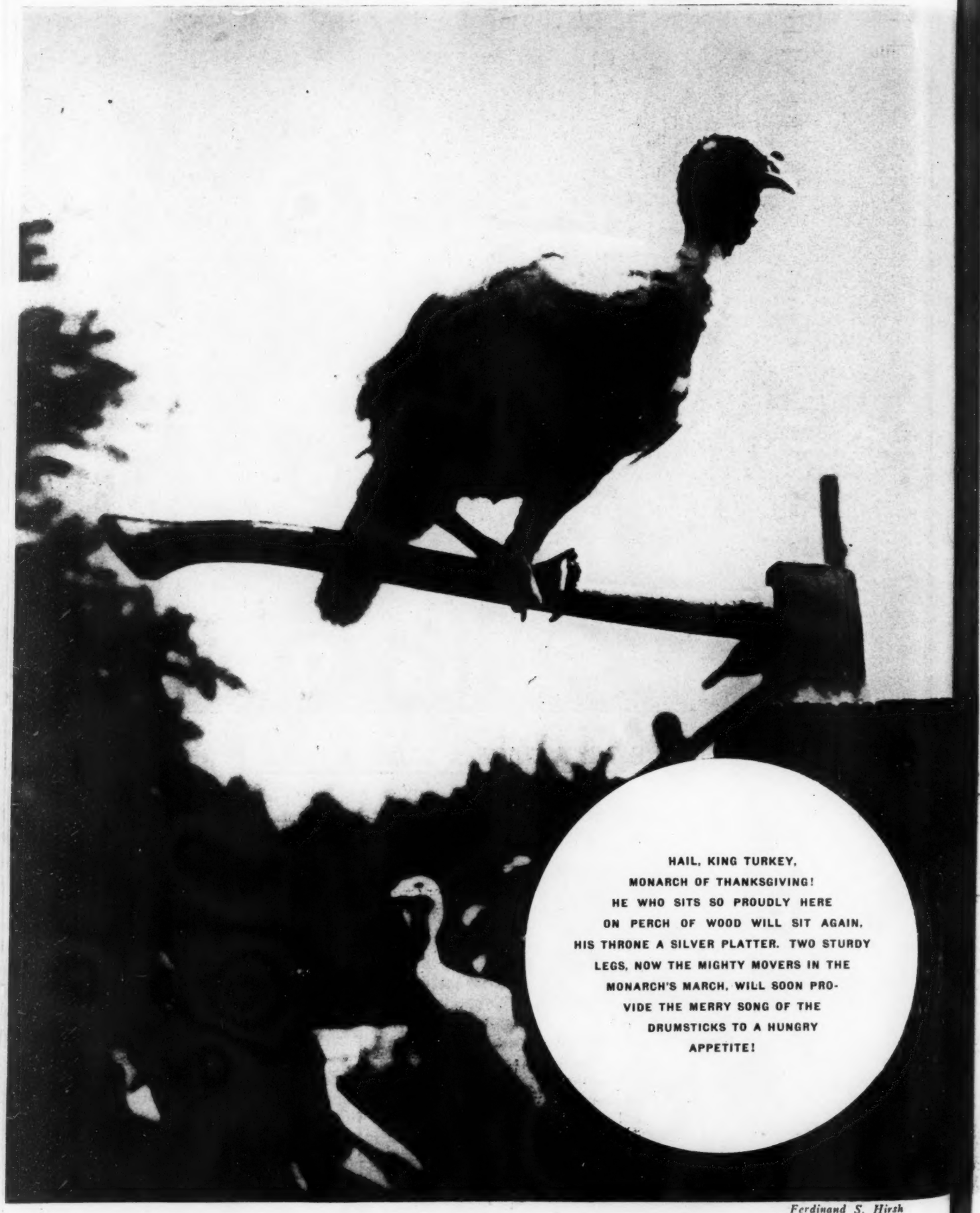

HAIL, KING TURKEY,
MONARCH OF THANKSGIVING!
HE WHO SITS SO PROUDLY HERE
ON PERCH OF WOOD WILL SIT AGAIN,
HIS THRONE A SILVER PLATTER. TWO STURDY
LEGS, NOW THE MIGHTY MOVERS IN THE
MONARCH'S MARCH, WILL SOON PRO-
VIDE THE MERRY SONG OF THE
DRUMSTICKS TO A HUNGRY
APPETITE!

Ferdinand S. Hirsh

EDITORIAL

Some Fallacies About Cancer

WHEN THE CONGRESS of the United States recently voted nearly a million dollars to be spent each year on research on the cause and treatment of cancer, it gave recognition to the high place occupied by cancer in our mortality statistics. Notwithstanding the vast amount of material on the subject that has been published in recent years, most people are still uninformed concerning the nature of this disease. While a cancer is a tumor, not all tumors are cancers. A cancer is a malignant growth or tumor. Any lump or any new growth is a tumor. Many of these are harmless. Many people have little lumps of fat on the skin or just under the skin. These are tumors. They are not cancers. A cancer differs from a tumor in its malignancy. It grows rapidly, and it may destroy life.

Now and then you will hear people say that somebody had a cancer and that the cancer disappeared by itself. There is no scientifically established case on record in which a cancer disappeared by itself. Cancers sometimes get better; they seem to shrink; they may even seem to disappear from some single point in the body. Sooner or later, however, the cancer appears elsewhere, unless the original growth is completely eliminated before there has been any opportunity to spread.

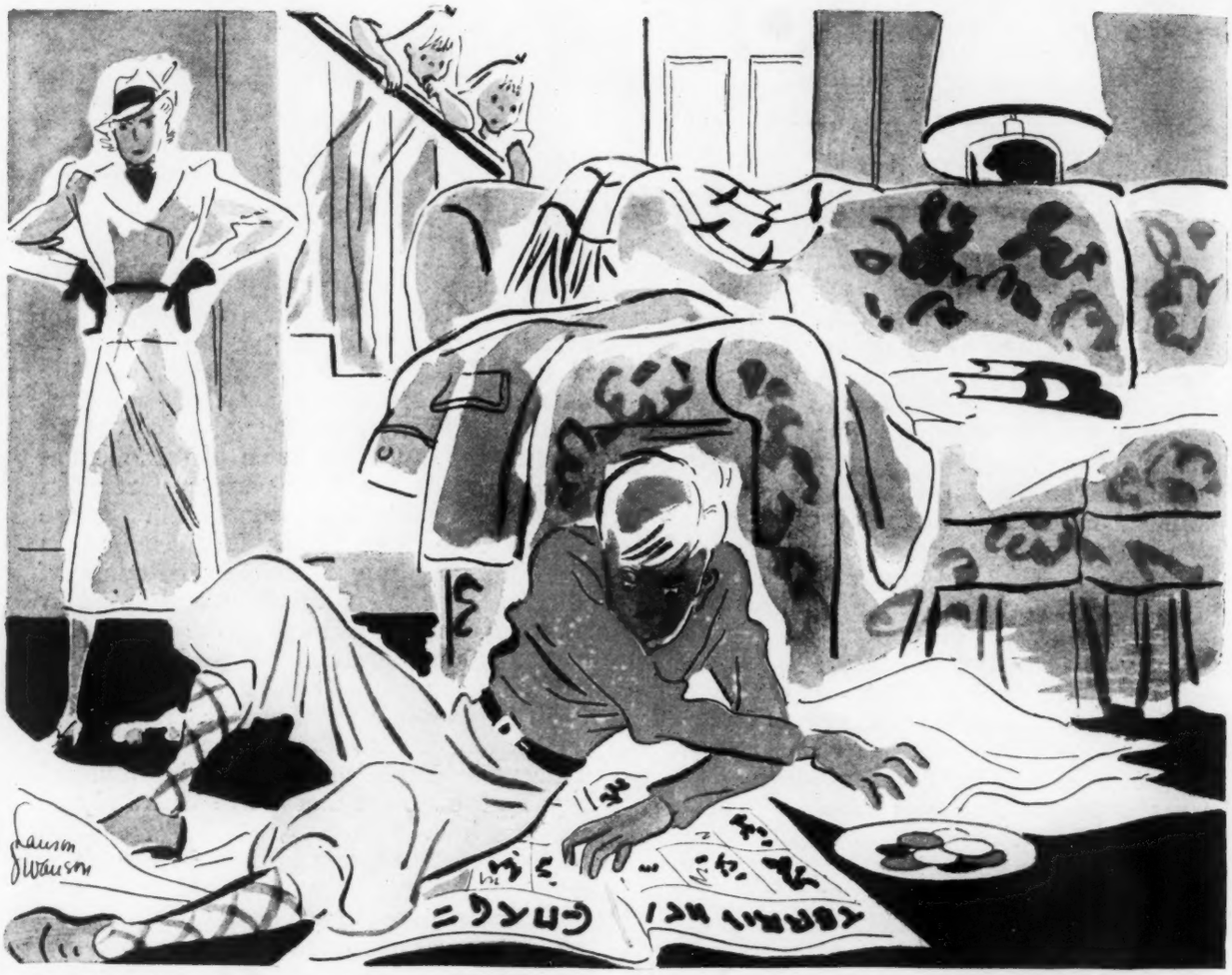
Frequently people say that cancer is increasing. It is true that far more people die of cancer today than used to die of that disease. In 1900 there were 65 deaths from cancer for each hundred thousand people; whereas in 1933 there were 102 deaths for each hundred thousand of the population. This does not mean, however, that the incidence of cancer is increasing. People now live longer than they used to. Cancer is essentially a disease of advanced years. Because more people live longer, more people die of cancer instead of dying from some other condition. Certain forms of cancer are probably increasing in incidence because we have changed some of our habits of living and thus encouraged certain factors which influence the growth of cancer. Many of these factors are irritative in character.

There is much talk about diet and cancer. People say that savages do not die of the disease because they live on a natural diet. The actual facts show that the primitive savages of Africa die of cancer, if they live long enough. Some people have said that eating meat causes cancer. Among Filipinos, whose diet is chiefly vegetables and rice, there are the usual number of deaths from cancer in relation to the age of those concerned. Some people urge that eating food cooked in aluminum cooking utensils is the cause of cancer. Official commissions appointed by three governments have proved that the statements about aluminum and cancer are not based on any scientific evidence.

Many people have been worried about marriage because they have heard that cancer is hereditary. Certain unusual types of cancer seem quite definitely to be inherited. However, cancer breeds out of the race. Among human beings there does not seem to be any necessity for serious concern over the inheritance of cancer. Insurance companies, which have to watch these things closely, do not refuse insurance because one person in a family died of cancer, nor do they ask an increased premium because some one in the ancestry had cancer.

The average person thinks of cancer as a horrible sore or a tremendous growth. That is because cancer is frequently neglected until it has reached a serious stage. In the early stages, cancer is just a tiny spot or a little scaly place on the skin or on the lining of some internal organ. This early stage of cancer can be prevented only by preventing the irritating factor that gives it a start.

Some people still believe that cancer can be cured by smearing on pastes of various kinds. The main factors in the treatment of cancer today are surgery, radium and the x-rays. Methods of treatment which depend on ointments, plasters or massage are dangerous. Neither can cancer be cured by cheerful thoughts. Neither mental worry nor exceeding cheerfuless can control or cause the disappearance of cancer in any way. The chief danger attached to treating such a serious condition by the mind alone is the possibility of overlooking any possible chance that exists for treatment with well established methods.



STOP ANNOYING YOUR CHILD!

By ROSE ZELIGS

MOTHER, imagine that you have been away from home for an hour. You begin to have an uneasy feeling about things at home. You never can tell what those youngsters will be up to. As you open the door you almost fall over Tommy's skates in the hall. In the living room you see your young son's coat and books thrown across the sofa. On the floor sits Tommy himself, contentedly reading the "funnies" while he stuffs his mouth full of those dainty little cookies you made for tonight's bridge club. Yes, Daddy, the rest of the paper has been scattered all over the room. Try to find the sport page or the stock report, if you can. What is that noise upstairs? Oh, the twins have been playing grown-up ladies, and Mary has just tripped over a rocker and ripped Mother's best dress. How annoying!

But let's look at this matter from another point of view. Did you ever stop to think how much you may annoy your child? Remember, a child is quite helpless in situations involving irritating and annoying parents. A local paper, a few days ago, carried the story of a 6 year old little girl who was found wandering on the street, alone. The child refused to give her name and address. "My mother told me to get out and stay out, and I am not going back," she cried. Though you probably don't speak like that to your child, still you may be totally unconscious of the many ways in which you annoy him.

Today we are living in what is called the Scientific Age; that is, we try to get our reasons for doing things from facts rather than from mere opinion. Therefore in this discussion on how you annoy your child, I am going to give you facts directly from the child. In other words I wish to report a study on the subject. Four hundred and fifty 11 year old children were asked to write out the things their parents do that annoy or irritate them. The children were told not to put their names on the paper so that they could give the real facts. The number and kinds of annoyances reported by the children were amazing. Of course, it would be impossible for me to report all of them to you. But from this study, five of the most

important needs of wise parent and child relationships may be classed as: (1) the emotional attitudes of parents; (2) the child's need for personal freedom; (3) democracy in the home; (4) your attitude toward your child when outsiders are present, and (5) the standard you set.

Our emotions play an extremely important part in our lives. They give purpose, color and zest to life. However, by expressing our emotions unwisely, we may seriously harm ourselves and our children. Illness or temper or nerves frequently afford the means of attaining a desired end. That sick headache is often an unconscious attempt to run away from a difficult problem. The children say:

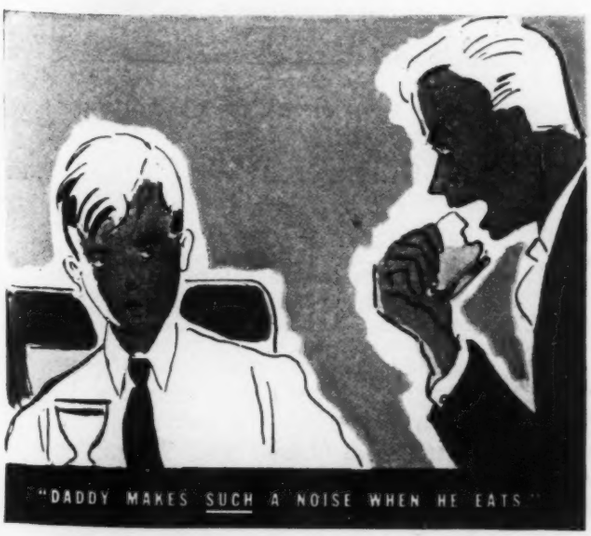
> From the time she gets up in the morning until about noon she is very unreasonable and always wants to argue.
> Mother always complains about pains.
> Mother gets nervous and excited when I'm slow.
> She gets angry over apparently nothing.

Parents often use nagging as a means of getting what they want. Nagging is an expression of inability to solve a problem. You feel that by making some one else have your unhappy feeling he may do something about it. Often nagging is just a bad habit. Some children protect themselves from this constant annoyance by not listening to anything the nagging parent says. Other children may be affected so badly as to become emotionally unstable. A girl says:

> My mother nags me so much that sometimes I feel that I must scream. Sometimes I feel like running away forever so that I may never hear her voice again.

And a boy writes:

> From 3 o'clock to bedtime my mother always bothers me. She nags me about doing my lessons; then she pesters me until I practice; then she pesters me until I take a shower; then she gets on my nerves until I go to bed.



Wise parents do not permit themselves to indulge in moods. Often the father who shows poise and self control when at work acts differently at home. There he believes that he is lord and master and expects to be catered to and waited on by those whom he supports with his hard earned money. A little girl writes:

> My daddy is great, but when he has had a bad day at work he comes home irritable, but we overlook that as we realize that he works hard.

You should express affection for your child because it gives him security and courage to

face the difficult problems which are his. However, overdemonstration may upset him emotionally. It may cause him to seek the warm arms of his mother and avoid the cold, cruel outside world.

Emotional attitudes should also be avoided when disciplining children. Some children complain about being slapped. Children resent this because it interferes with their self respect. Slapping is not a method of disciplining your child but is an expression of your own annoyance.

I regret to say that some parents even throw things at their children. Johnny says:

> When I do wrong Mother loses her temper, picks up the nearest thing and throws it at me. Once she threw a milk bottle and it busted a foot away from my head, but most of the time she just throws a shoe.

Next comes the child's need for personal freedom and independence. It is only by permitting him to have experiences with things and people that you will help your child develop interests and social attitudes. One of the slogans of the Progressive School is, "We learn to do by doing." Let the child play with the neighbors' children, even if they are of a different creed or color. Let him go to town and do a little shopping. Don't try to protect him by building a wall of ignorance around him. Listen to some of the complaints:

"MOTHER TALKS SO LOUD THAT I CAN'T SLEEP."

> Mother thinks I'm too young to do things. She won't let me go to football or baseball games.
> She won't get me a plaything unless she likes it.
> Mother hollers when I play football or climb fences or go to the woods and tear my clothes or get dirty.
> Mother makes sort of a sissy out of me. I hate that, but I guess Mother has to do it.

Another step toward independence for the child is a definite and regular weekly allowance. Let him buy the things that appeal to him even though they may seem worthless to you. Children's allowances should rarely be cut as a means of punishment. When extra funds are needed opportunities should be given to supplement the allowance by special jobs. In a number of cases the need for money has made children of fine character so desperate as to cause them to steal.

The third group of annoyances shows the need for democracy in the home. There was a time when children were expected to obey parents without question. It made it pretty easy for the parents, but it limited the self expression of the child. Today we stress the need for democracy in the home. A certain amount of obedience and respect should be required of children, but mutual consideration should exist between parents and children. The child is entitled to a peaceful and quiet home environment. There should be no noise when he is sleeping or studying. Let me quote again:

> Mother talks so loud when she plays bridge that I can't fall asleep.
> It annoys me to have Mother talk on the phone for hours at a time.

In order to form good study habits, children should work alone in a quiet room without being interrupted. They are annoyed by parents who do not respect this need. Some say:

> Whenever I try to work out something on my nightwork Mother keeps on talking to me so that I can't think.
> When I am doing my lessons Mother bothers me, makes me go to the store or makes me answer the telephone.

The fourth problem growing out of our study deals with your attitude toward your child when in the presence of others. When company comes treat Johnny as a normal member of the family but don't single him out for special attention:

> Mother tells company all about me and always shows me off.
> Mother makes me call fake aunts, "Aunt." Mother always sits near me when we have company and dishes my food out for me. It makes me feel like a baby.

Finally I want to emphasize the importance of the standards that you yourself set. If you study the lives of famous people from George Washington to Shirley Temple, you will find that their success was due to the influence of their parents. At first your child gets his standards of conduct from you, by imitation. Later he may measure you by standards he gets from other social institutions. Your children want to feel that you trust them. It also gives them a feeling of confidence and security to know that they can depend on you. Many children complain about parents who break promises.

And Daddy, don't always talk business. The younger generation objects. They want you to be informed on other things so that they can discuss their various interests with you. It gives them pride and pleasure to feel that "Dad

"MOTHER MAKES ME CALL FAKE AUNTS 'AUNT'."

knows." And they check up on your manners too. One boy says:

> Daddy makes noise when he eats, and he reads the paper at the dinner table.

While a girl writes:

> It embarrasses me before my piano teacher when Mother talks real loud while I am taking a piano lesson.

Your children are also conscious of your personal appearance. One girl is annoyed because her mother has runners in her stockings and wears "old-maidish shoes" and "funny looking dresses." It is up to the parents to see that their children are not ashamed of them.

Do you annoy your children by your own unwise emotional conduct, by interfering with their personal freedom, by not maintaining a democratic spirit in the home, by your attitude toward them when in the presence of others or by setting a poor example? Children are keen psychologists. They can size us up pretty well. The modern child does not put his parents on a pedestal. He knows you, accepts you, forgives you—but he is your severest critic.

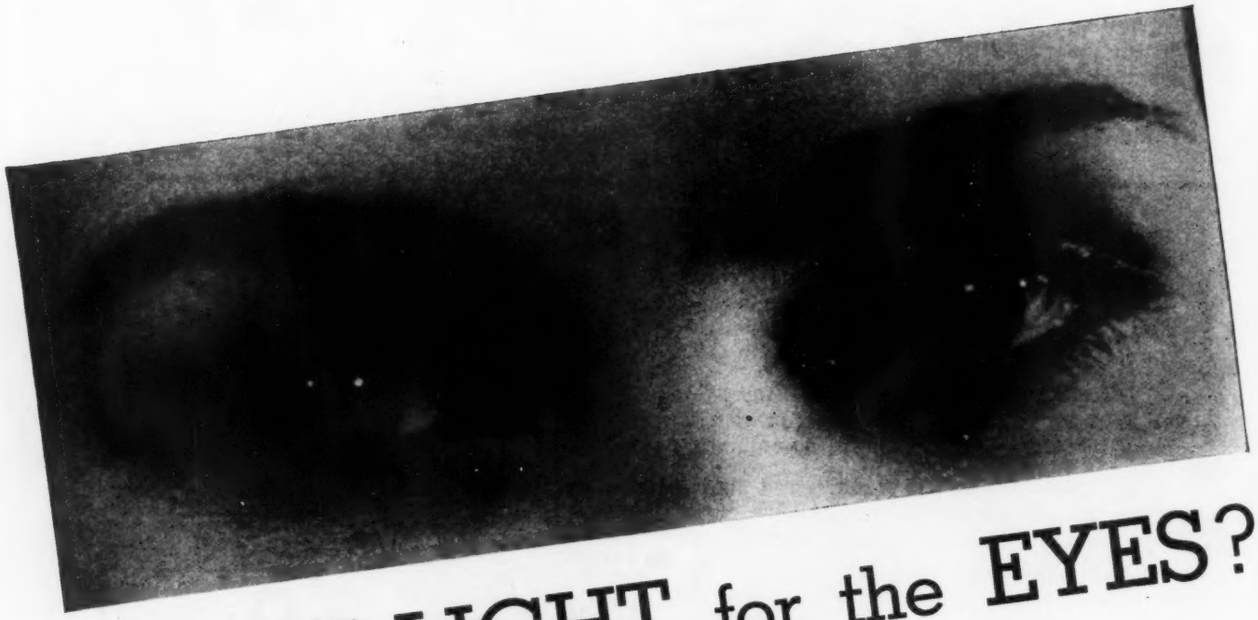
An Annoyance Test

Your child's mental health depends on your own emotional expression and control. Here is an objective test which will show how much you annoy your child. You might score yourself on this test, let your child rate you on it, and compare the results.

Directions.—Place a zero (0) in the column opposite the item, if your parent *often* annoys you in that way. If he annoys you *sometimes*, place a one (1) in the column. If he never annoys you, place a two (2) in the column.

Scoring.—To find the score add the numbers opposite all the items. A total of 100 represents the perfect parent; a score of 70 represents an average parent, while a score below 50 represents a very annoying parent.

1. Gets angry over apparently nothing		26. Deprives me of my allowance	
2. Throws things		27. Disturbs me when I am doing my lessons	
3. Gets nervous and excited when I'm slow		28. Makes noise when I'm sleeping	
4. Always has pains		29. Turns on light when I'm sleeping	
5. Is always irritable and in a bad temper		30. Slams down cards and argues in bridge games	
6. Fusses about food		31. Takes newspaper away from me	
7. Keeps kissing me all the time		32. Bosses too much	
8. Frightens me by yelling and screaming		33. Bothers my things	
9. Shakes head about everything I do		34. Makes me turn off the radio in the middle of a program	
10. Preaches too much		35. Turns on the radio when I'm studying	
11. Is always nagging me		36. Turns on the radio when I'm sleeping	
12. Hits me		37. Shows me off before company	
13. Thinks children are a nuisance		38. Criticizes me in the presence of company	
14. Scolds me when I get my clothes dirty		39. Makes me call fake aunts, "Aunt"	
15. Teases me		40. Gets meals at irregular times	
16. Treats me like a baby		41. Talks too loudly	
17. Makes a sissy out of me		42. Reads newspaper at the dinner table	
18. Thinks I'm too young to go places		43. Makes noise when eating	
19. Makes me eat too much		44. Is not home enough	
20. Won't let me play after school		45. Talks business too much	
21. Sends me to the store when I'm playing		46. Doesn't trust me	
22. Sends me to the store three or four times in one day		47. Forgets to do me a favor	
23. Doesn't give me a regular allowance		48. Breaks promises	
24. Won't let me spend my allowance the way I please		49. Doesn't come home for dinner on time	
25. Doesn't give me enough allowance		50. Doesn't dress nicely	



WHAT LIGHT for the EYES?

An article by JAMES E. LEBENSOHN, in which HYGEIA launches a new series on the effect of illumination on the eyes, to include a discussion of illumination in industry, in the home, in the school and on the highway.

UNDER NATURAL CONDITIONS a range of illumination is encountered varying from about one-thousandth footcandle in starlight to over 10,000 footcandles beneath the summer sun. For long periods, either of these extremes would be unsafe lighting.

In the dimness of deep coal mines ocular fixation is difficult; and in men who have been employed ten years or more underground there not infrequently develops a continuous oscillatory movement of the eyes, called miner's nystagmus, which necessitates the abandonment of work. Thanks to the efficiency of the electric cap-lamps required in our mines, the disability has become relatively unknown in this country. A similar condition, known as spasmus nutans, occurs in babies reared in dark back rooms, who are consequently unable to establish control of the eye muscles involved in fixation. Improved surroundings induce a rapid and complete recovery.

On the other hand prolonged exposure to the rays of the tropical sun without adequate protection results in extreme ocular irritability (glare asthenopia) because of the actinic effect, or chemical reaction, on the eyes from the intense light. Also, when one is viewing an eclipse, gazing at the sun with naked eye or through ordinary sun glasses is not without peril. Thermal as well as luminous rays focus on the center point of the retina, and a few minutes' exposure may result in serious and often permanent visual impairment (eclipse amblyopia).

The demands of civilization have made man more and more dependent on artificial light, which in turn has fortunately become progressively cheaper, more efficient and more abundant. The electric light bill in American homes averages 7 cents a day; but the same lighting from tallow candles would be fifty times as expensive. Since most visual tasks are facilitated by increased light, the footcandles recommended for office, factory and home have been repeatedly restandardized at successively higher levels. Provided the installation adequately insures proper diffusion, artificial light in any practical amount is harmless. Outdoors on a clear day the skylight illumination varies from 1,500 to 2,500 footcandles, and in the shade, it is not less than 500 footcandles—values tolerated most comfortably.

The amount of light required for efficient vision is interrelated with the factors of time, contrast and size involved in the task. The briefest interval in which it is possible to gain an adequate visual impression is 0.07 second. With poor lighting, fourfold as much time is required. Letter sorting in post offices does not reach its maximum speed until the illumination surpasses 8 to 10 footcandles. A popular magazine is read 30 per cent faster when the illumination is increased from 2 to 24 footcandles. After dyeing the paper gray to reduce contrast, the improvement with the better lighting is over 100 per cent.

Vision is effected through light reflected from objects, and the extent that an object reflects light is the measure of its brightness. Pure white, a scientific curiosity, reflects 100 per cent of incident light and has accordingly a brightness of 100. On this page the actual brightness is about 80 for the white paper and 3 for the black ink. Consequently, if the illumination is 100 footcandles, the stimulation received by the eye is 80 equivalent footcandles from the white paper, 3 equivalent footcandles from the ink. The contrast, the ratio between the brightness difference and the brightness of background, is 77/80, or 96 per cent. In the telephone directory the brightness of the thin, low-grade paper is 57; the contrast is 80 per cent. This reduction in brightness and contrast makes vision more difficult. Hence three times as many footcandles are required to see the print in the telephone directory as would be required for seeing print of the same size in a fine book. The contrasts in reading are generally far higher than in other visual tasks, such as those of the seamstress, woodworker, typesetter or machinist, who require accordingly a proportionately greater amount of light for efficient work.

Better light enhances the perception of detail. Other conditions being equal, the smallest object visible under 100 footcandles is about half the size of the smallest object visible with 1 footcandle. Though 12 point print can be read without difficulty under 5 footcandles, to attain the same degree of visibility for the smaller types, 10 point, 8 point and 6 point, requires 7, 10 and 17 footcandles respectively. Better vision means improved accuracy; in proofreading 6 point type, 35 per cent more errors were discovered under 50 than under 8 footcandles. Better vision means greater safety; in proportion to traffic volume, automobile accidents at night are four times the daylight toll. Because aged eyes have lost much of their former vigor and adaptability, good lighting especially benefits the near vision of older individuals, increasing both discriminative ability and the range of clearness.

Psychologically, high illumination makes for stimulation and attention, subdued lighting for restfulness and inactivity. Daylight quality, the work light of choice, is also best for color matching and for supplementing deficient daylight. But at night, yellowish light, which perhaps is subconsciously associated with the comfort and cheer of burning logs and lighted candles, is preferred.

The foregoing considerations indicate that standards of illumination must vary with the difficulties of the visual task. For optimum seeing, moreover, the factor of safety should be large enough to favor accuracy and speed, ocular ease and general well being. With as little light as 0.1 footcandle, 6 point type on good paper can just be discerned; and although 3 footcandles would seem adequate at first, for protracted reading 10 footcandles is the minimum desirable, if undue ocular fatigue and general neuromuscular tension are to be avoided. At present, electrical engineers of conservative tendencies suggest that the illumination provide an available brightness of the following equivalent footcandles: for auditoriums, the brilliance of 5 footcandles; trains, 6; churches and hotel lobbies, 8; banks, 10; reading rooms, 12; barber shops, 15 and art galleries, 20. The minimum standards advised by a lighting enthusiast are much higher: for casual seeing, 5; factories, 10; clerical work, 20; watch repairing, 50, and sewing dark goods, 100. Modern lighting practice is generally too meager. A recent investigation covering 2,500 industrial plants showed an average level of about 3 footcandles.

On a white horizontal surface 1 foot below, a tungsten lamp produces a brightness equivalent to about 1 footcandle per watt. Since illumination decreases by the law of inverse squares, 3 feet from a 100 watt globe the light is only 1/9 its value at 1 foot, or about 11 footcandles. In daylight globes the light is one-third less, due to absorption by the blue glass filter. No artificial light can compete with the firefly in efficiency. Its light represents 97 per cent transformation of energy. The tungsten lamp, in contrast, has the low lighting efficiency of 1.6 per cent, the rest of the electrical energy being changed to heat. The bluish mercury-arc used in factories and the new yellow sodium globe being introduced on highways are sources of more economical lighting. After November 1937, 922 sodium lamps will illuminate the 15 mile pavement of the San Francisco-Oakland Bay bridge, and after April 1, 1938, 200 sodium lamps will service the span of the Golden Gate bridge.

Ample intensity alone does not make good artificial lighting. Of even more importance are a glareless field and correct distribution of brightness. With insufficiently diffused illumination, reading and sewing may be more comfortable with less light. The eye is definitely limited in the speed with which it can adjust to variations in illumination and in the differences of brightness which it can simultaneously encompass in its field of view. The play of the pupil is a temporary measure by which as much as ten times a brightness-difference can be rapidly offset, but this reaction is far more briskly effected by the stimulus of greater brightness than for the reverse. Further modifications are completed by the slower process of retinal adaptation. Since these ocular responses are governed by the level of greatest brightness present, the visibility of neighboring objects not so well illuminated is annulled or lowered. Thus, as the glare of a

headlight blots out the view of the road, so the glint reflected from a magazine page renders the reading more difficult.

Ideally, the lighting on the work should not differ widely from that of the surrounding field. The greater the light intensity, the less the permissible divergence. Outdoors a difference of 20 to 1 is seldom exceeded. Indoors with a brightness of 200 equivalent footcandles, a contrast of 45 to 1 is the limit for comfort.

The light must be on the work, not in the eyes. The nearer a light source is to the line of vision, the greater the glare. At an angle of 10 degrees, a 100 watt lamp produces as much glare as a 225 watt lamp does at 15 degrees. A light 30 degrees above the line of vision is practically glareless. As glare increases, it produces successively distraction, discomfort, fatigue and reduced visibility. When bright sources of light occur in the field of view, eye shades are of value. They should be preferably translucent so as to lessen the contrast of light and dark areas. On blackboards, some of the writing is often invisible from a part of the schoolroom because of the glare of reflected light. If good greenish-black slate is used, cleaned regularly with coal oil and resurfaced when old, this handicap is readily controlled by tilting the boards and adjusting the translucent shades or Venetian blinds.

Dazzling glare, as occurs on exposure to excessive light, is to be distinguished from contrast glare, due to an excessive brightness-difference in the visual field. The former is easily obviated by tinted lenses, which are however useless in the latter case, as can be demonstrated. A card on which a word is printed is centered on a transilluminated screen. When the illumination coming through the screen reaches about 300 footcandles the word can no longer be read. The glare-out value is found unchanged by tinted spectacles.

Under special circumstances, as in oxy-acetylene welding, glass-blowing or x-ray work, the visual organ requires protection by suitable absorptive lenses from the biologically dangerous rays; but if the eyes show abnormal sensitivity to ordinary light, a condition known as photophobia, the fault is in the eyes themselves. Relief lies not in dark glasses but in the attentions of an eye physician.

Just as the intelligent direction of time, weight and heat have been aided by the clock, scale and thermometer, so the popularization of the light meter should render similar service to sight. The introduction of the compact, automatic dry-disk photocell in 1931 created a new era in photometry. A form of this instrument is now familiar to all camera enthusiasts. A vest pocket model is available that measures indoor lighting up to 750 footcandles. The light sensitive cell transfers light energy directly and almost instantaneously into electrical energy. Its life is unlimited. A typical cell consists of a transparent film of silver overlying a layer of selenium deposited on a steel plate. A yellow-green filter is added to match the response of the cell with the sensitivity of the eye. The current produced is proportional to the luminous radiation, and the attached micro-ammeter is graduated to give values directly in footcandles. Under proper precautions the accuracy is within 2 per cent.

Photometry with the photo-electric tube is a more involved method but capable of an accuracy of 0.25 per cent. A photo-electric tube can be set to turn an artificial lighting system off and on automatically. Such a mechanism is of value in schools and factories that depend mostly on the variable illumination of daylight. In a sight-saving school in Washington, D. C., when the daylight falls below 10 footcandles in the darkest part of the classroom, the artificial lighting is turned on, and it goes off when the illumination reaches 30 footcandles.

In conclusion a few additional practical suggestions may not be amiss.

One's eyes should not be directed at a bright light any more than a camera should. Babies' eyes especially should be shielded, and the lining of the baby carriage should be of dark colored material. No light in a room should be too brilliant; the maximum brightness should not exceed 300 equivalent footcandles, about that of a 10 inch opal ball over a 100 watt tungsten lamp. With stronger lights, proportionately larger diffusing bowls are necessary.

Don't neglect to keep lamps and glassware clean. "Water is cheaper than watts." Dust and dirt can cause a loss in lighting efficiency of from 10 to 40 per cent.

In schoolrooms, to maintain a daylight illumination above 8 footcandles throughout the year, the windows should have a net glass area of not less than one-sixth the floor area.

To be satisfactory, indirect lighting must be adequate. In a light colored room, from 1 to 3 watts per square foot will supply from 10 to 30 footcandles of illumination. Dark colored walls and ceilings should be avoided, as the illumination is then more apt to introduce glaring contrasts.

The rooms of the sick and aged should not be too dim, for in those predisposed the resulting dilated pupil may provoke glaucoma.

Those in rural districts should not be content with poor lighting. Practically every kind of illuminant can be so installed as to give excellent lighting.

In special cases, as in handling threads, sharp shadows add to visual efficiency, and mirror-like reflection may be of extreme value in inspecting marks on polished surfaces. In general, however, these effects of lighting cause glare and are to be avoided.

NURSING in the HOME

By EDNA LEWIS

SICKNESS in the home is always a devastating experience. Although we can be fairly sure it will strike home sooner or later, it always finds us unprepared. Much of its damage cannot be forestalled, such as lost time or upset plans, but much of the seeming devastation could be averted if we but knew some of the important issues involved and cared for those first.

In illness there are two first considerations: 1. Is the illness of a contagious nature? If so, how can the other members of the family and community be protected? 2. In both contagious and noncontagious diseases how can the patient be made as comfortable as possible?

Isolation is the answer to the first question. All contact of the patient and his possessions should be shut off from the rest of the susceptible members of the family, save the attendant. Since most contagious diseases are carried by excretions from nose and throat, the dishes, bed linens, clothing and basins which are used by the patient should be kept separate or should be thoroughly disinfected before coming in contact with the susceptible members of the family. It is likewise essential that the attendant wash her hands thoroughly after any contact with the patient and before leaving the patient's room. These rules should hold for all respiratory diseases from colds and sore throat to scarlet fever and mumps. The advice of a doctor regarding the control of the disease should be sought.

Methods of making the patient comfortable will vary widely with the patient and the disease, but the point which is most universally valid, at least for adults, is: "Relieve the patient of responsibility." If one can stay in bed without feeling that the world—not to mention one's own home—will go to rack and ruin, a good step toward recovery will have been taken. Usually this primary requirement can be easily delegated to some one else, except in case of the mother or wife of the household; but the mother keeps thinking, Who is to get breakfast and send the family off and clean up the resultant débris? Here a foolish shortsightedness enters into the training of boys. Why should they not know the rudiments of emergency cookery? Getting a palatable breakfast does not require any great amount of skill.

If it were a universal rule that when a person has a rise of a degree or more in temperature or is generally "indisposed" he must stay in bed for the period of the indisposition, he would avoid chilling, which often complicates even "simple" diseases with such difficulties as middle ear infections or pneumonia.

If the illness is to be of some duration, definite planning will do much to further the welfare of the patient and to keep the routine of the household running smoothly. One person should be chosen to be wholly responsible for

the patient; this insures constant care, with the least worry to the patient. For instance, if medicine is due at 8 o'clock and there is more than one adult in the family, each may expect the other to give the medicine, and it will not be given, or each will in turn ask the patient whether it has been given, thus throwing the responsiblity on the patient.

In choice of the attendant there are two chief considerations. First, ability to carry responsibility and second, emotional balance. These qualities will be discussed as they relate to the physical care of the patient and the personal relationship between patient and attendant.

Under the first category, setting up a routine will make the work much easier for the attendant and will keep the patient better satisfied. When one is lying helpless, it is most comforting to know what is coming and when to expect it. Rhythm probably plays a much greater rôle in our lives than we usually accord it. A plan also insures emphasis on important items. A chart or worksheet is therefore helpful.

The first consideration concerns the doctor's orders. If there are specified hours for treatments or medication, these are put on the sheet first, and all other items are adjusted to fit these. A fairly typical doctor's order consists of the following instructions:

Take pulse, temperature and respiration every four hours.

Medicine No. 1—8 a. m. and 6 p. m.

Medicine No. 2—every two hours.

Medicine No. 3—give when temperature reaches 100 F.

Treatment—10 a. m. and 4 p. m.

Liquid diet.

Push fluids.

Here, then, is the skeleton worksheet. To this may be added morning care, bath, care of the bed and room, rest periods and evening care. Arranged on a worksheet the schedule is:

6:30—Morning care. Fresh water.
7:00—Breakfast.
8:00—Pulse, temperature, respiration. Medicine No. 1 and No. 2.
8:30—Bath. Care of bed and room.
10:00—Medicine No. 2. Treatment. Liquids.
11:00—Rest.
12:00—Pulse, temperature, respiration. Medicine No. 2. Dinner.
1:00—Rest.
2:00—Medicine No. 2. Liquids.
3:00—Visitors (if allowed).
4:00—Pulse, temperature, respiration. Medicine No. 2. Treatment.
5:00—Cooling sponge bath.
6:00—Medicine No. 1 and No. 2. Supper.
7:00—Visitors (if allowed).
8:00—Pulse, temperature, respiration. Medicine No. 2.
9:00—Final care for the night.
When necessary—Medicine No. 3.

A written, running report on the patient is of incalculable value. It takes but a few minutes to jot down items which often have a meaning far beyond our realization. Since the doctor sees the patient but a few minutes each day, the responsibility for noting all changes of symptoms falls on the attendant. Accuracy of report is impossible without a written record, for there are too many points to remember; in addition, the attendant is not able to evaluate the relative importance of symptoms. To the nonprofessional person the range of temperature may mean little; to the doctor it is an important index. Minimum reports should include both objective and subjective symptoms as follows:

Pulse, temperature, respiration.
Medication.
Treatments.
Diet, appetite.
Elimination.
Patient's reports of symptoms.
Attendant's report of symptoms: appearance, mental attitude and so forth.

These points, arranged chronologically in a notebook or on sheets of paper clipped together, give the doctor a clear picture of the case, not only for the day but for the whole course of the illness.

To become proficient in the various duties which the attendant is called on to perform,

THE PATIENT'S STRENGTH AND ENERGY ARE OFTEN SACRIFICED ON THE ALTAR OF WELL MEANING BUT UNWISE FRIENDLINESS.

study, observation and practice are required. The following high points may prove helpful not only to the attendant but also to the patient:

AN ATTRACTIVELY SET TRAY AND A FLOWER OR TWO WILL HELP TO STIMULATE INTEREST AND APPETITE.

1. Provide for frequent change of position. "Bed weariness" is the bane of all illness. If the patient is unable to move himself, change of position every hour is one of the important items of one's routine. Pressure sores are the dread in every immobile case. The skin on the hips and at the end of the spine should be watched carefully. Don't stint on pillows; comforting variations of position may be had with a folded one slipped behind the back when the patient is on his side; a small pillow may be placed between the legs, folded under the knees when the patient is on his back, or slipped under the shoulders and arms when he is on his back.

In moving a helpless patient, always turn him toward you; you have more strength to pull than to push and, much more important, you eliminate the danger of the patient falling out of bed. For the sake of the patient and your own back, don't try to move without aid a heavy patient who is helpless.

2. In pouring medicines, look at the label before and after pouring. Do not take any chance on making a mistake. In pouring liquid medicines, pour away from the label. A medicine glass is the most proficient method for giving medicine, for it insures accuracy of measurement and avoids spilling, and water can be poured into the glass to "wash down" the medicine (exception is made in giving cough medicine).

3. Be sure you have everything needed at hand for any treatment or service you undertake. It is helpful to have a special work-table in the bathroom or kitchen on which the equipment for the various services may be kept assembled, as for example, the bath tray on which may be set basin, pitcher, soap, alcohol and powder. Near at hand should be the linen, washcloth, face and bath towels, sheets, pillow cases, bath blanket and nightgown. For the inexperienced, a check list is helpful. Getting ready for the service to be performed will often include a consideration of the room temperature. Never take a chance of chilling a patient.

4. A considerable amount of thought and care should go into the serving of trays. At best, the appetite is usually poor. Make the tray attractive. Use the best linen and dishes. A flower or a little surprise is a helpful addition. Always have hot things hot and cold things cold. Have the patient ready beforehand—in position and hands washed. Don't discuss the diet beforehand; observation will soon teach you what foods to serve and what to avoid. Make the meal a pleasant diversion. A rectangular tray can be set to the best advantage. Convenience is the criterion for the placement of the food on the tray.

5. See that fluids are taken freely, unless contraindicated. Keeping fresh, cool liquids at the bedside with frequent urging to drink will establish the habit.

6. Two things which will save the strength of the attendant are having the bed the height of hospital beds and having the sheets 2½ feet longer and wider than the bed. Four blocks of wood, 5 inches square and 6 or 8 inches high, with a hollow in the top for the bed post will raise the bed to a height which will do wonders in eliminating backaches for the attendant. Muslin sewed to the sides and bottom of sheets which are too short and narrow will prove most helpful in allowing enough sheet to tuck in to avoid wrinkles in the bed.

7. The patient will be much more comfortable if careful and constant consideration is given to the matter of temperature and lighting. A thermometer will help to keep the temperature constant; covers which are light and easily adjustable are desirable. With regard to light, don't forget that the patient's outlook is quite different from yours; the ceiling light shines directly in his eyes and should not be used. A bedside light which adjusts easily is desirable. The rule for natural lighting is the same as for well persons: That coming from the back and side is best. Every one has decided preferences in regard to lighting; find what your patient's are and scrupulously follow them. It is most irritating to have to say each day, "Will you please pull the shades halfway down?"

8. Keep the room tidy at all times. For example, when making a bed, instead of scattering the covers on all the chairs and putting the soiled linen on the floor, fold the covers neatly as you take them off the bed, put them on the back of a chair placed at the foot of the bed, and place the *(Continued on page 1006)*

Should Cousins Marry?

Is opposition to their marriage justifiable? What has history proved and what do modern scientists say about it? PAUL POPENOE states arguments for and against cousin marriage and evaluates them with scientific impartiality.

GEORGE AND GERTRUDE think they cannot live without each other. They begin to drop hints to their families.

"What! Marry your own cousin?" The elders shake their heads ominously. "It's too dangerous."

The young people think it would be dangerous not to marry.

"Surely you don't want to run the risk of having defective children?" the elders ask.

Perhaps they are perfectly willing to run that risk. In due time the babies appear; all the relatives pronounce them perfect, and every one is satisfied.

In a large proportion of cases, however, the confidence of the cousins is sufficiently shaken to make them seek advice. No question concerning fitness for marriage is brought up so frequently to the Institute of Family Relations as is this. Clearly the public still lacks that understanding which biologists have of the results of cousin marriage. It is still largely dominated by the ignorant, if not superstitious, views of the past.

Practice in the past has, to be sure, varied widely; but on the whole, the marriage of closely related persons has been regarded as undesirable, if not immoral. From blood relationships the tabu was often extended to factitious relationships. A step-child, adopted child or godchild might be regarded as kin. Among the Arabs if a boy and girl baby had been suckled by the same wet-nurse, they thus acquired a relationship which made marriage unlawful. Sometimes, as in China, merely possessing the same name acted as a barrier, a serious circumstance in China, where most of the population shares about 100 common surnames. Here as elsewhere, "love will find a way," and it is possible for one of the lovers to break the tabu by a change of name. Thus if Mr. Smith and Miss Smith want to marry, she may spell her name Smythe and "get by."

Christian civilization tended to make the bars even higher than in many primitive peoples, perhaps as a result of the ascetic attitude of early authorities. In general the Catholic church still frowns on marriages as close as third cousin, although the Roman, unlike the Eastern, hierarchy has always granted dispensations liberally. In England the law which prohibited a man from marrying his deceased wife's sister was not repealed until 1907 after a bitter controversy. Many American states still forbid by law the marriage of first cousins; Oklahoma extends the prohibition to second cousins.

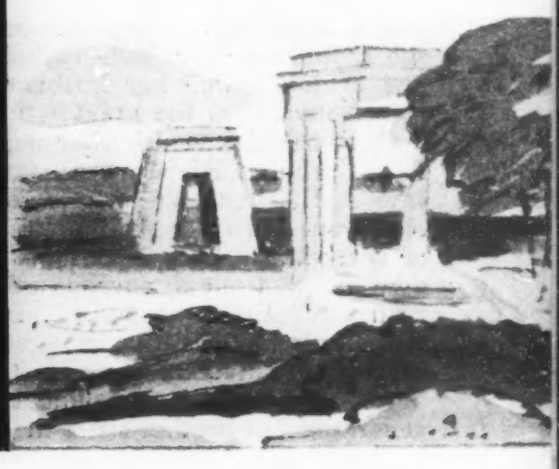
Many and often fantastic reasons have been given by modern students for the existence of this widespread opposition to the marriages of kin. Probably numerous influences are involved at different times. The tendency to marry a stranger is strongly encouraged by the fact that when two persons of opposite sex have been brought up together from childhood there is less sexual attraction between them.

This applies not merely to members of the same household, as brother and sister, but perhaps to neighbors. In studying the length of acquaintance preceding marriage, it is surpris-

THE MOST EXTRAORDINARY EVIDENCE AS TO THE BIOLOGIC EFFECT OF CLOSE MATINGS IS TO BE FOUND IN ANCIENT EGYPT. IT IS TO THE LEADERS THAT ONE MAY TURN FOR THE BEST EVIDENCE, FOR IT WAS THROUGH SUCH MATINGS THAT THE ROYAL DESCENT WAS SAFEGUARDED.

ing to find how rare is the report, "We have known each other all our lives." It seems quite possible that the neighbors' little girl, with whom one has been associated ever since infancy, may share this lack of romantic attraction of the sister. The girl met in college or at a summer resort has not had her romantic allure dimmed by long familiarity.

But there are plenty of exceptions. In some instances cousin marriage has been almost the rule, as among the Arabs. The reasons here are similar to those which lead to cousin marriages in a royal or noble group; that is, desire to keep the property within the family and to safeguard the purity of blood. The Arabs give some additional reasons that are interesting. A cousin can be acquired more cheaply; a smaller dowry is demanded because "it is all in the family." Moreover, as a Moor explained, there is another practical advantage about marrying a cousin: If she becomes angry with



you she is not so likely to to curse your ancestors, which is a favorite pastime among Mohammedans, because by doing so she has to curse her own!

In many instances much closer marriages than those of first cousins have been tolerated or approved. Among the ancient Hebrews, Sarah was Abraham's half-sister, and Moses sprang from the union of a nephew and his paternal aunt.

Neither Moses nor Isaac, products as they were of unions that would now be described as incestuous, can be described as a bad recommendation for the system. They were vigorous and able men.

But the most extraordinary evidence as to the biologic effect of close matings is to be found in ancient Egypt. Gods set the example, Osiris having married his sister Isis. Common people followed the example frequently, though doubtless not usually; but it is to the rulers that one may turn for the best evidence. It was long the custom for the pharaoh to marry his sister, or at least his half-sister, in order to safeguard the royal descent.

The eighteenth dynasty, which ruled Egypt in the sixteenth, fifteenth and fourteenth centuries before Christ, probably represents as high a point as the power of the country ever reached. It began when the Hyksos were driven out. These hated invaders were nomads who had held Egypt for about 200 years. It was in their time that the Children of Israel settled in the delta. Ahmose I, founder of the eighteenth dynasty, liberated his country, made it secure from future invasion and began the restoration of the great architectural monuments of Upper Egypt.

He married his sister. Their son, Amenhotep I, extended the empire by reconquering Nubia, repelling the Libyans and carrying an invasion of Syria as far as the river Euphrates. So much venerated was he by his people that divine honors were paid to him for 6,000 years after his death.

He, too, married his sister. Their daughter Aahmes married her half-brother Thutmose I, a great builder.

The daughter of these two, Queen Hatshepsut I, married her half-brother Thutmose II. She overshadowed her husband and was the actual sovereign, the greatest queen of Egypt.

She was succeeded by her nephew and stepson, Thutmose III. This monarch's character, says J. H. Breasted, "stands forth with more color and individuality than that of any king of early Egypt except Akhnaton. We see the man of a tireless energy unknown in any Pharaoh before or since. . . . He built the first real empire, and is thus the first character possessed of universal aspects, the first world hero." And he was the product of five unbroken generations of brother-sister marriage.

This great man married his half-sister. Their son, Amenhotep II, was a man of extraordinary physical strength, who claimed that none of his subjects could bend his bow. He married Tiaa, whose pedigree is uncertain, although she has been called his half-sister. Their son, Thutmose IV, was an energetic lion hunter in his youth and a successful leader in war during later life. His marriage to a Babylonian princess resulted in a son, Amenhotep III, who ascended the throne. As there were no more kingdoms within easy reach to be conquered, his reign is marked by great development of the pursuits of peace, by expansion of commerce and patronage of the fine arts.

He took a Syrian princess as his bride. Their son, Akhnaton, conspicuous for religious enthusiasm and a high moral standard, brought the dynasty to an end. He was succeeded by his stepson, the well advertised Tutankh-Amen.

In these nine generations, characterized by close inbreeding, there is no diminution of physical or mental vigor. The records, the portraits, sometimes even the bodies, exist to furnish evidence that the marriage of kin is not necessarily disastrous to the offspring.

A thousand years later another dynasty, of wholly different race, offers additional striking evidence concerning the marriage of near kin. This is the dynasty of the Ptolemies, founded after the death of Alexander the Great by his bold and patient general, Ptolemy Soter, and ending in the celebrated Cleopatra VII. Her descent is shown briefly in the accompanying chart, in which the ruler's consort is named only when the two were related.

Ptolemy I
|
Ptolemy II
|
Ptolemy III m. Berenice II, his half-cousin
|
Ptolemy IV m. Arsinoë III, his full sister
|
Ptolemy V
|
Ptolemy VII m. Cleopatra II, his full sister
|
Cleopatra III m. Ptolemy IX (brother of VII), her uncle
|
Ptolemy X m. Cleopatra IV, his full sister
|
Berenice II m. Ptolemy XI (brother of X), her uncle
|
Ptolemy XII d. without issue, succeeded by his uncle
Ptolemy XIII
|
Cleopatra VII

The general reputation of the Ptolemies is of course bad. Morally they typified the conventional oriental despot, with the ethical code of a modern gangster. *(Continued on page 1011)*

RIDING to HEALTH

By RUTH PURCELL

"YOUNG WOMAN, you are not ill; you merely need exercise. Skip rope, climb a mountain, ride a horse! Next patient please." I trailed listlessly out of his office, dropped limply into my car and, humped dejectedly over the wheel, drove slowly home. What do doctors know about health anyway? I was too tired to skip rope, let alone climb a mountain, and as for riding a horse! Horses smelled strongly; what modern authors call earthy. They were alarmingly active, and they brought one in contact with loud voiced, wholesome people who talked an incomprehensible jargon and loved the outdoors. At that moment no power under the sun could have convinced me that in less than six months I would love the smell of a horse, like horsey people and be blessed not only with splendid health but positively bouncy spirits.

However, I cherish the thrifty conviction that advice, once paid for, should be followed. In spite of my aversion to horses, riding seemed the least of the three evils. So that afternoon I trailed tiredly down town and shopped uninterestedly for the necessary riding clothes. If riding could lift the headachy, weary, dark brown aura that constantly hovered over me, it was worth trying. After all, if one went quietly about one's business of jogging along a bridle path, one wouldn't become involved with healthy, horsey ladies, and at first one would be given a very quiet horse to which one could cling ever after with a ladylike yet tenacious determination.

The next morning found me at the local riding academy, garbed in the raiment I had paid for and which the saleslady (up from neckwear) had selected. My pants, jodhpurs to the initiated, were full and baggy to allow freedom of movement. My boots gaped widely. They were the cheapest available, and the manufacturer had seen no point in being generous with leather. My shirt was, perhaps, the saleslady's greatest achievement. A brown, green and red checkered affair, it was by far the brightest spot on the landscape. My tie was Kelly green as to background, and over it, perpetually jumping imaginary fences, sprang row on row of bright red horses. This thing of beauty was firmly hitched to my shirt by a gold plated hunting whip. In its center was a brown enamel horse's head. A dainty switch lent me what I fancied was an accustomed air—especially when I swished it against my legs.

Sustained by this sartorial splendor I approached the desk to ask whether I might take a private lesson. The young woman to whom I applied seemed to be a combination receptionist, bookkeeper and instructor. Incidentally she would have been a credit to Miss Anybody's Select School for the Right Young Ladies. Looking at her dark brown shirt, brown jodhpurs which fitted smoothly with very little flare and her worn but shining brown boots I felt that perhaps I shouldn't have put my trust quite so completely in the earnest young lady who belonged in neckwear. Her yellow string gloves and matching yellow tie secured in place by a small gold pin in the shape of a riding crop confirmed that disconcerting thought.

Happily the young lady, who must have had great strength of character, appeared not to notice my striking attire and was reassuringly matter of fact about this business of riding. She accompanied me out to the ring, where I was introduced to a tall, slight gentleman of quiet manner, who so closely resembled an exceedingly unathletic architect of my acquaintance that I had immediate qualms as to his ability. They chatted with me about the weather, politics and other unhorsey topics. In the course of this casual small talk, as subsequent teaching methods proved, they learned that I had not been well, had never been on a horse before, was thoroughly frightened and was not there through my own will. All too soon I found myself on a horse. The reins were thrust into my unwilling hands, and the instructor was saying, "Molly is your horse's name. She is very gentle, but I will hold this lead or guide rein until you are acquainted with her and accustomed to her gaits. Shall we go into the ring?" My lesson had begun!

We walked about the ring; we stopped and started again. Stopping was simple since Molly was only too glad to oblige, but starting was something else again. We repeated that performance until I was going around successfully and minus the lead. Then the instructor suggested that we do our walking along the bridle path. On his assurance that we wouldn't go far, we wouldn't attempt a trot and that he would hold the lead, I consented. Thus with my first lesson I found myself and the great outdoors on bowing terms. Surprisingly, I enjoyed both the ride and the outdoors. Joggled out of my accustomed apathy I consulted with the young lady of the academy, then hastened to town. My costume had need of drastic revision.

The following morning came the reckoning. Comic artists to the contrary, after a first ride, sitting down is quite possible. It is movement that brings thoughts of the Spanish inquisition. Muscles so obscure as to be known only to the most learned anatomists cry out in such loud protest that there is no place in consciousness for a mere headache. There can be no thought of weariness. In addition to these aches and pains I suffered a tangible, active fear of the present necessity of hieing myself to the riding academy, which completely routed that mysterious sense of impending fate that had hung over me so long. For, made giddy by that happy feeling of well being which a quickened circulation gives, I had rashly made an appointment for the very next day.

That day had dawned with unprecedented rapidity. A grim kind of courage and a merciless conscience inherited from the same Puritan ancestor—whom I damned heartily all the way to the stables—compelled me to keep the appointment. A little less dazed this time, I had an opportunity to appreciate the hugeness of the horse I was expected to get on from the "near" side. Apparently the left side of a horse is the only side acknowledged by horsemen—not that they speak of it as the left. Oh, no, to them it is always the near side; while they call the right side the "off" side. Just why, I do not know. To me the right side seems to be just as near as the left side.

Again we go into the ring, but this time I am more confident, and miraculously under the motion of the horse my aching muscles cease to ache, my body relaxes. For the first time I feel the motion of the horse and ride in rhythm with it. I am pleased with myself. My satisfaction is rudely shattered, however, when I feel a firm hand under my elbow and hear the riding master saying, "We are going to trot now. Just go with the horse. Up-down, up-down. Just relax; don't work so hard. That's it. Knees close to the saddle, back erect. Up-down, up-down. That's fine. Shall we rest a while?" Shall we rest! We slow to a walk, and I attempt to regain my completely shattered poise —a difficult matter.

As we walk our horses, the instructor explains that I bounced because I showed daylight between my knees and the saddle—than which there is no greater crime, unless it is to "ride the horse's mouth." This sin I did commit,

along with the one of leaning over the horse's neck instead of remaining "gracefully erect." Aside from committing these major sins I did very nicely. In fact that perfidious riding master solemnly assured me that I had the makings of a good rider. Perfidious because, as every one knows, the novice rider, like the dub golfer, is all too ready to seize on words of consolation and to understand them as rightful acknowledgment of his ability. A typical novice, I regarded his words as an accolade. I then and there decided that I must learn to ride. The doctor prescribed me into the first step; pride compelled me to keep the second appointment, but it was that phrase, "You have the makings of a fine rider," that started me voluntarily along the tanbark path. From that moment I was the worst of pests—an enthusiast.

Consequently I rode as often as a lean purse and a long suffering family permitted. One fine day on the way home from a ride during which I had most nearly achieved the essentials of riding, relaxation, balance and rhythm the instructor suggested that we leave the road and take a short cut through the ford. Feeling very set up, mettlesome in fact, I led the way. All went well until we reached the brink of the ford. There my steed stopped, lowered her head and snuffed the swirling water. Distrust was apparent in every sniff. She poked a tentative hoof in the water, withdrew it and shifted about uneasily.

Finally as though convinced that to cross a pebbly, slippery stream when it was possible to go over it by way of a firm bridge was simply ridiculous, she heaved herself about and determinedly made for the bridge. "Pull your right rein and kick her with your right leg. Don't let her direct this ride. That's your job."

Heartened by his words I yanked at the right rein and kicked with my right heel. To my surprise she turned and headed obediently for the ford. Again we halted at the edge. This time she curved her neck and favored me with a reproachful stare. There are few things more unsettling to a beginner than to have a horse so regard him. When the horse is standing with forefeet inches deep in a swift running stream, hind feet on high ground, its poor riders' emotions are further stirred by the disturbing suspicion that at any instant he will toboggan over the horse's head into the brook.

In abject agreement with my reluctant mount's agitation I, too, thought longingly of the security of that nice, dry bridge and was about to give her her head when the instructor called to me sharply, "Hit her with both heels and lift your hands." Startled into instant obedience I unwound my legs from about the horse's middle, unclasped my hands from where they had been frozen to the saddle and obeyed orders. Amulet trotted docilely across the stream, and a great truth dawned on me. A horse must know that his rider is unafraid. As a horse is more intuitive than any woman, it behooves a rider to be confident. A horse has no patience with inferiority complexes. What he wants is a rider who is in control and whose judgment and courage can be depended on. I also learned once and for all that to push a horse along one must use one's heels, and that if they are to be free to kick, they can hardly be kept clamped about the horse's middle. All the way home I concentrated on

SHE CURVED HER NECK AND FAVORED ME WITH A REPROACHFUL STARE. FEW THINGS ARE MORE UNSETTLING TO A BEGINNER THAN TO HAVE A HORSE SO REGARD HIM.

keeping my heels down and my weight mostly on the inside of the balls of my trembling feet —and received my reward. In the last few yards of the ride, Amulet, her mind on her stall, settled into an even trot, and by some miracle my legs stayed in position, my elbows hung naturally at my sides, my hands stayed steady, my back arched naturally, my head was erect. Balanced, relaxed, in rhythm I was really riding. For me "poetry of motion" was no longer merely a pretty phrase; I had experienced it.

I was now ready to attempt a canter. I had been told the motion of a canter was like that of a rocking chair. Well, I have yet to rock in any chair—and I am an expert rocker—that has just the motion of any horse I have ever ridden. The canter has a motion all its own. When slow it is rather pleasant; but, alas, so many horses have a deplorable tendency to quicken their gait, and then it is that the beginner bounces! The morning after my first canter I awoke to find several sets of muscles, heretofore untapped, crying aloud in anguish. A hardier soul than I had been a few weeks before, I ignored them, and after several lessons I suddenly relaxed, sat deep in the saddle and discovered cantering was fun. The instructor had been right. If one has rhythm and balance, one may manage a fair trot; but without the third of the triumvirate, relaxation, cantering is out of the question.

When I had learned to sit relaxed but at attention at the walk, to trot without loosing my stirrups and to canter with only a medium bounce the instructor, never one to let you rest on your laurels, decided I was to join the Wednesday afternoon class. He assured me that I had gone as far as I could with private lessons and that unless I stepped out into the semi-independence of a class I would be acquiring form without control. I would never conquer my tendency to stiffen with fright at the unexpected. As the unexpected is omnipresent in horseback riding, my back resembled a ramrod most of the time. A stickler for form he had an outspoken contempt for riders who were all form and at the mercy of their mounts where the going was rough.

That he was right couldn't be denied. Nevertheless, it was with a distinct sense of shock that I heard myself murmur a weak aquiescence —I who had determined to learn to ride and then to ride alone—to have no truck with brassy voiced, horsey people who doubtless could talk of nothing but horse, horse, horse! Having in a moment of feeblemindedness agreed to join the class I resolved to go to it once or twice to show my good will and then drop out. So the following Wednesday I was at the academy prepared to suffer through the hour. I was introduced to my classmates. Of assorted sizes and ages we had one thing in common—none of us was horsey.

Introductions out of the way—etiquette is nowhere considered more important than at a good riding academy—we headed for the parkway under the guidance of the instructor. He who had been a kindly despot, implacable as to proper form, now assumed the rôle of fellow rider and appeared merely mildly interested in form but much concerned with etiquette.

We all had our special failings. For example, pretty little Miss Brooks, engaged to a polo playing addict and determined to learn to ride lest she disgrace him, lived in constant fear of displeasing her mount and felt obliged to let him have his head, did *(Continued on page 1042)*

FORECAST

A flighty post-Christmas pocketbook isn't the only thing the little man to our left is going to miss if he doesn't turn around and face the facts pretty soon.

***Hygeia* for December presents such a valuable array of articles that may be owned in thought just for the reading of them that it would be more expensive for him to miss than to manage.**

***Dr. Morris Fishbein* will help the reader out of his Christmas quandary by telling him "The Truth About Candy."**

***Dr. H. S. Rubinstein* will tell him that "Life Is Too Short" to allow any maladjustment in marriage. And he will tell why there are domestic misunderstandings and what can be done about them.**

If there is a sick child in the family or in his circle of acquaintances, the reader will probably be faced with a great puzzle about what would be suitable for entertainment while abed. *Marion M. Lamb's* article, "Gay Gifts for the Sick Child," is extremely enlightening, as it tells exactly what gifts are the most usable and acceptable from the child's and nurse's points of view.

The reader's interest and appetite will be intrigued by *Harriet Morgan Fyler's* "Plum Pudding: The Traditional Christmas Dessert," which will make him regret that such jolly customs as are here described come but once a year.

CLEAN SPORTS—A New Angle

An article in which C. O. JACKSON refers not to the ethics of high school athletics but rather to the need of sanitation in such sports

ONE OF THE basketball players calls for time out, and immediately on cessation of play the trainer on the bench swings into action. Out flies a wet towel, sliding along the floor and gathering dirt as it comes, and by the time Sam has picked it up and is wiping his perspiring face with it the trainer with his heavily taped, insanitary water bottle joins the group. Sam, who plays center, has a slight infection on the side of his face which later turns out to be "barber's itch" or impetigo, but this prevents him neither from playing nor from sharing his towel with his teammates.

Johnny, the captain and star forward, has had the "sniffles" for several days. Just this afternoon a sore throat developed, but he is playing nevertheless, because he knows the team needs him. He hasn't told any one that he isn't feeling just right, and while his play is not up to standard, he is doing fairly well. His prerogative as captain gives Johnny first chance at the common drinking bottle. He in turn passes it to his teammates, who also take "swigs" and then spew out most of it in another towel which the trainer has thoughtfully placed on the floor. As the entire scene is repeated almost identically five or six times during the game, who can blame the trainer if in the "heat of battle" he sometimes gets his two towels switched? Besides, the players are not overfastidious, and the spectators are interested in other things; so what difference does it make anyway?

It is a typical warm October afternoon, and the two football teams are perspiring freely. When the quarter ends with the ball near midfield, most of the players immediately sink or slide slowly to the ground for a few seconds of blissful relaxation. The cry "Water!" brings the trainer on the field, and considering his load he makes it in almost nothing flat. Of course his speed is retarded a trifle because he carries his badge of office, a towel, over one arm while a once shiny bucket with several battered dippers and a sponge of dark and questionable lineage sailing around in the roiled water swings dangerously from the other. However, long intensive practice enables him to reach the group of hot, tired players with a minimum of wasted liquid, and while he vigorously rubs faces and heads with his towel, the players snatch dippers from each other or suck the wet, refreshing sponge.

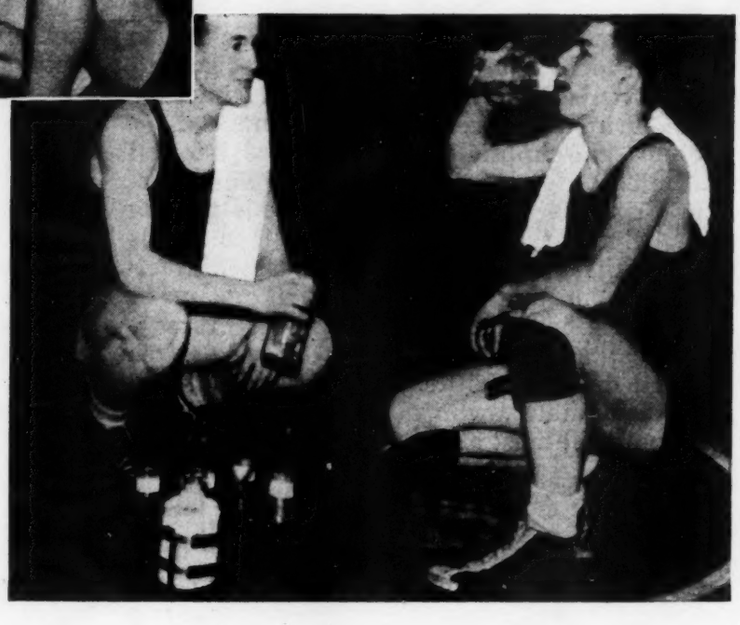
Among the players in this group is Tom, who has noticed a soreness around his gums the last day or two. He isn't worried about it yet, because he doesn't know that several days ago when he stopped for a "coke" at the little confectionery near school, he picked up a "germ" because the glass had not been properly sterilized. Yes, Tom is getting a splendid case of a most unpleasant and highly infectious disease, Vincent's angina, or "trench mouth," as it was commonly known during the war. He is of course just as thirsty as the rest of the boys, and in common with his teammates has his share of refreshment via the dipper and sponge. When the game is resumed several of the boys have unknowingly exchanged head-gears, but again, what does this matter as long as they fit and protect their wearers from injury?

The count is three and two on the batter, with the score tied in the seventh inning, two out and a man on third. The crowd is at hysterical pitch, but the local spectators subside with loud groans when the pitcher shoots over a fast one to retire the side. Jack, coming in fast from the outfield, joins the line waiting at the water bucket and soon proceeds to refresh himself from the shiny, new dipper which just last week replaced the old one, worn out from long and faithful service. Towels are conspicuous by their absence, but the players mop their perspiring brows with the sleeves of their shirts and so do not notice this slight inconvenience.

One, perhaps more fastidious than the rest, wipes the rim of the dipper on his sleeve before drinking and then carefully throws away the water remaining in the vessel before he replaces the dipper in the bucket. Another, just as concerned about himself, is always careful to keep his lower lip *inside* the dipper and so, to his way of thinking, protects his present and future health. Close observation reveals particles of sediment from the dusty ground, suspended in the water and clearly visible against the shiny bottom of the dipper. This is accepted as a matter of course, but there are strenuous protests, coupled with many good-natured laughs, when a little yellow pup who is also thirsty from his frolicking manages to get his nose in the bucket before any one sees him. However, water is the remedy for thirst, and the players must drink when they are thirsty, so what difference does it make? The source of supply is too far away to worry about replacement.

The preceding descriptions should call to mind some of the more common violations of accepted and socially approved principles of health which are seen at so many athletic contests and should also indicate specifically some

HEALTH-DESTROYING GERMS FIND A HAPPY HUNTING GROUND WHERE TOWELS, SPONGES AND CUPS ARE SHARED BY THE ATHLETES.



WIDE-MOUTHED, NUMBERED, INDIVIDUAL BOTTLES AND CLEAN, INDIVIDUAL TOWELS, ALLIES OF SANITATION, HELP THE ATHLETE SAFEGUARD HEALTH.

of the dangers inherent in such practices. These violations are of course sufficiently surprising to most of us when we see them at professional exhibitions of sport; but when many educational institutions on both the high school and the college level permit similar practices, our surprise is not only increased but mixed with growing disgust and bewilderment.

If we should attend the average practice session in a sport such as basketball, we would see still further "exceptions." Frequent and promiscuous exchanging of dirty, perspiration-soaked jerseys and occasional spitting on the floor, in corners or behind wall pads seem to be the rule. To make the picture complete, it is only necessary to observe how dirty the floor of the gymnasium is and then follow the boys to the strong-smelling locker-room, where the same type of neglect is apparent. The boys are seldom taught any preventive measures for eliminating such infections as "athlete's foot," nor is any attempt usually made to make the physical surroundings more attractive from the standpoint of health.

The prime concern of education is recognized as that of improving and developing the individual to the limit of his capacity, and it is just as commonly accepted that this implies reasonable precaution to safeguard the health of all students participating in school activities. Is it possible that somewhere along the road to Utopia such an important implication has been lost or left behind?

I recently conducted a state-wide survey of health and sanitary practices in high school athletics. The survey included 529, or 72 per cent, of the accredited high schools in the state of Illinois and covered enrolment from 25 to 8,000. The purpose of the study was to learn something specific about the care of the physical plant and the personal equipment of all students engaged in varsity athletics. Another objective was to call attention to some of the practices already discussed. Amazing as the scenes previously described may be to the reader, the actual practices as reported by most of the 529 schools responding were almost as bad. Only half the schools made any attempt to learn whether a boy was physically fit to participate in sports, and the remainder merely asked for a statement from his parents!

On the brighter side of the ledger, we find that about one fourth of the schools follow the accepted practice of requiring both a seasonal examination and a reexamination before participation after illness. It must be remembered, however, in considering this statement and those which follow, that the study includes only the more progressive and up-to-date institutions and that nearly 600 accredited and non-accredited schools are not included.

The promiscuous use of the common towel, especially in the locker-room, is understood

when the statistics reveal that less than a fourth of these schools make any attempt to provide a towel service for their athletes. Among the schools represented in this small group the basketball players receive towels for their showers more often than do the participants in other sports, possibly because the indoor facilities permit distribution more easily. In nearly every instance where the administrator indicated that he felt the use of the common towel and the common drinking bottle were permissible he also checked the fact that one or more epidemics had occurred among the members of the teams during the past two years! The contagious diseases most prevalent there were, in order, "athlete's foot," boils, colds and sore throat. The larger schools in the state apparently take greater precautions to guard the health of their athletes, because the majority listed no epidemics, and most of their health practices were better than average.

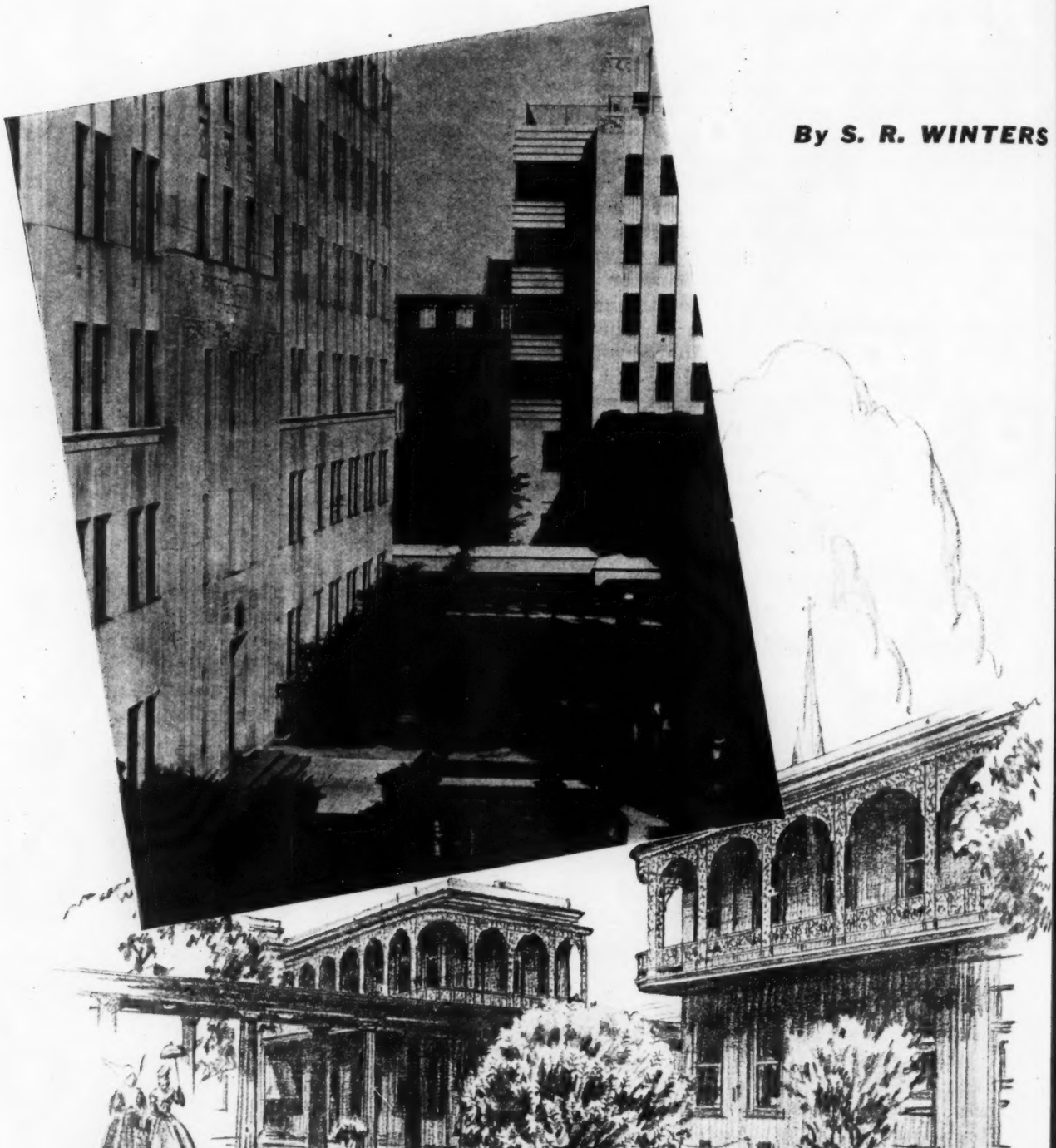
The principals were asked for an expression of opinion concerning many of the practices already discussed in addition to others, such as exchanging sweat clothing, sucking a common lemon and spitting on the floor. Three hundred and fifty-two, or 67 per cent, of the administrators responding stated that every practice mentioned was undesirable, and several felt that sharing a common bar of soap and sharing or exchanging socks, supporters or shoes were equally undesirable. While it does not appear possible that any one, particularly an educator, could conceivably recommend any of these practices, nevertheless this was done in a few cases. The reasoning behind this is probably similar to that expressed by one who said "not recommended, but permissible in the heat of battle"! However, in justice to the principals it must be said that a close study of the inquiry blank revealed that in at least two of the four cases an error had been made in the marking.

Information was also gathered concerning the frequency and manner of cleaning the gymnasium, locker and shower rooms, urinals and toilets and concerning the facilities for drinking and expectorating in the gymnasium. Another part of the study brought data of the frequency and manner of cleaning all sports equipment, including mats and mat covers. In the great majority of cases it was apparent that most of the schools were as backward and careless in the care and sanitation of the physical plant and individual sports equipment as they were in other health practices.

The study indicates specifically that in spite of increased attention to public health and the many developments in medical and sanitary fields which are now common knowledge, the average high school does not take the necessary precautions to maintain safe and healthful surroundings for its students; particularly is it negligent in the care of gymnasiums, showers and locker-rooms. Likewise, in the conduct of most sports, practices are still permitted which have been condemned for years as dangerous and lacking social approval in all other fields. This fact is even more astounding when the curriculums of many of these schools reveal courses designed to build attitudes and habits of good health! And finally, "the arresting feature of the report," according to Dr. Frank J. Jirka, "is that unhygienic and insanitary practices are permitted . . . in spite of the opinion to the contrary among the administrators . . .!"

The coach at the recent state tournament who refused to use the excellent drinking facilities devised by Mat Bullock, the varsity trainer at the University of Illinois, and insisted on using his lone towel in the usual way, because he had used it all season and he felt it brought him "luck," is fostering the same sort of undesirable mysticism and ignorance often see in track, where many boys believe firmly that any laundering of their equipment will immediately destroy the charm and hurt their chances of winning! The coach who continues to violate all accepted codes of health, the principal who permits it and the player who accepts it are facing a real challenge. What will happen?

UNIVERSITY OF ILLINOIS ATHLETES ENJOY THE MOST MODERN OF SANITARY FACILITIES, SUCH AS INDIVIDUAL TOWELS, PAPER CUPS AND DISPENSERS.



By S. R. WINTERS

New Orleans Charity Hospital

TO THE AVERAGE person the city of New Orleans symbolizes Romance. It evokes thoughts of the Mardi Gras! Few persons realize, however, that interwoven with the growth, indeed with the very life-blood of the city itself, is an institution, the development of which parallels that historic, glamorous and romantic event, the Mardi Gras pageant itself.

The establishment and growth of Charity Hospital of New Orleans is a story typical of the pioneer spirit of this city in its grim struggle for existence, its steadfast tenacity of purpose and its constant striving for betterment. Founded in 1737 as an institution to nurse the sick and poverty-stricken of the city, it has a history of 200 years of ever broadening service as interest-

ing as it is colorful. It owes its humble beginning to a sailor, Jean Louis, who died in the city in 1736, leaving almost all his modest estate to found a haven for the city's poor.

With part of this money the authorities bought the home of Madame Kolly and some necessary beds. A large brick wall was added to the house out of the remaining 5,000 livres of the estate.

As early as May 20, 1737, it was reported officially to the Court of France by Bienville, founder of the city, that there were five patients in the Charity Hospital and that he planned to house the indigent poor there also, giving them suitable work to do "so there would be no mendicants." From this it would seem that Bienville was considerably ahead of his times in the realm of social service. The institution was then known as "Hôpital des Pauvres," the Hospital of the Poor. For forty-three years it served the poor. Then in the summer of 1779 a hurricane swept the city and reduced the structure to a heap of ruins. One of the minor tragedies of that hurricane, from a historical point of view, is that it destroyed the records of the administration of that first hospital. Not even the names of the doctors who were on the staff were preserved.

Undaunted, the administrators resolved that Charity Hospital should survive to minister to the sick poor. Three years later, in 1782, a gift of $114,000 by Don Andres Almonester y Rojas, then a resident of the city and reputed to be the richest man in the New World, made it possible for the dream of a recreated institution to be realized. However, the donor attached to his gift a somewhat curious restriction. All the débris of the old building, remaining in the wake of the hurricane, was to be salvaged and the rescued material used in the new structure. Whether the condition imposed was one inspired by economic or sentimental reasons is not known. It seemed not wholly consistent with so generous an endowment. But in the light of modern hospitalization practices it is significant to note that included among the many articles rescued from the old hospital, and constituting part of the new, were such items as 10 small mosquito bars made of linen; 18 small coffee pots "to give drink to the sick"; 19 earthenware slop jars; 21 old tin lanterns; 5 demijohns, one full of lime juice; 13 old tin cuspidors; 5 small jars of honey; 1 large cypress ladder to mount to the roof; 260 boards for coffins, and 1,000 small pieces of boards for coffins. The proponents of modern sanitation may question the inclusion of such continued use of these articles, regardless of whether the inspiration therefor was economic or sentimental. Not one surgical instrument nor any drugs were mentioned in the long inventory. Undoubtedly, in those days, operations were performed on patients with instruments belonging to the attending surgeon.

It is an established fact that two years after the second building was erected, New Orleans had a population of 9,756 and the hospital remained one of 24-bed capacity. Pestilence and lack of funds were a constant source of anxiety to the authorities, but they fought on courageously as best they could.

About 1801 it is a matter of record that Don Almonester created the office of house surgeon. In that position served Drs. Le Dux, Giovellina, Blanquet and Sanchez. The records do not reveal whether any of these physicians came to the second hospital from the first.

Tragedy still stalked the footsteps of Charity Hospital, for in 1809 when voracious flames enveloped the city they included among their victims this second building, burning it to the ground. The patients were moved to the Jourdan Plantation, and here for five long years the sick and destitute of the entire city were treated by methods which of necessity were crude, inadequate and unsystematic. The future of Charity Hospital seemed dark, indeed!

But in 1815 we find the administrators, undismayed, negotiating for a plot of ground on which to rebuild. This area they finally purchased from the city, and it represents the square bounded by today's Canal, Common and Baronne streets and University Place. Two large buildings finally went up which could accommodate as many as "130 persons at one time."

It was during this period that the then famous Dr. David C. Kerwas acted in the capacity of house surgeon. He rose to prominence originally because of having come to Louisiana with the invading British army in 1814. In order that he might treat the wounded the doctor allowed himself to be captured by the Americans when Jackson won the Battle of New Orleans in 1815.

The present site of the hospital was selected in 1832, the state of Louisiana buying the old Canal Street place. As far back as 1813 the state legislature had practically taken over the

institution, and the main building of the present group and also a few smaller ones were erected at a cost of $140,000 to the state.

The newly constructed hospital of 1832 accommodated approximately 400 patients, and the institution owned more Negro slaves than any of the surrounding plantations. Curiously enough, the hospital served more wines and liquors than the average city saloon of that time. This is borne out in the annual report of the year 1832, wherein it is revealed that the institution made the following expenditures: "For alcoholic drinks, $2,000.64; for candles of sperm whale fat, $298.18; for leeches to suck blood from patients, $202.25, and for surgical instruments, $111.38." This report in itself forms an interesting commentary on the conditions prevailing in American hospitals 105 years ago.

In all fairness, it must be said that the first hundred years of New Orlean's history is a recital of all the hardships that humanity can possibly endure. Continual calamities in the form of hurricane, fire, epidemics of all types, the desolation of war, the poverty of the reconstruction days all took their toll of the population and made the sufferings of the survivors acute. In no other city nor at any other period has the maxim of the survival of the fittest been better exemplified than in the case of the pioneers of New Orleans.

In order better to appreciate the problems of the hospital throughout its 200 year history, it is necessary to know that for nearly a century, New Orleans had the reputation of being one of the most unhealthful spots in North America. This condition is explainable on three counts. First, the marshy swampland surrounding the city constituted the happy hunting ground for mosquitoes carrying yellow fever and malaria. Second, the city was the busiest port on the Gulf coast. To its magic shores daily came ships from all over the world. They brought not only their usual cargoes but also all sorts of diseases. Dysentery, always prevalent, was due to the corruption of the water supply. Cholera was common, and we know now that this disease was directly traceable to the water supply and the crude methods of sanitation and sewerage. Since 1860, conditions have gradually improved in every one of these respects. The water supply formerly taken from the polluted river and rain-water cisterns now comes from carefully supervised municipal filtration plants.

It must be remembered that owing to the extremely flat and low topography of New Orleans, coupled with the heavy rain-storms it suffered, the problem of sewerage differed from that of most other cities. As late as 1900, this remained an unsolved situation on which the authorities worked unceasingly. In 1903, however, a new three-way system of drainage was adopted. The open gutters were abandoned; the stagnant, mosquito breeding water flooding practically all the streets was diverted 5 to 15 feet below the land surface. Next, all but the houses that were ratproof were demolished by law, and this eliminated the ravages of the bubonic plague which had baffled the medical authorities for so long. The rat infested houses were the source of the plague's deadly power! Cholera comes no more; yellow fever and malaria, once considered the natural heritage of the quaint old city, are as rare occurrences now as they are in any great modern city.

In the annals of the institution the year 1834 is probably considered the most auspicious one. It was then, at the request of the administrators of the hospital, that the Sisters of the Daughters of Charity of St. Vincent de Paul, more commonly called the Sisters of Charity, arrived to take charge of the internal management of the institution. The buildings then were practically devoid of even the barest necessities. The patients, moreover, represented every civilized country of the East and West, with the result that the wards were a hodgepodge of languages and diseases.

Into this strange and unsavory environment stepped five sisters. The Roman Catholic order of which they were members came into existence soon after 1600, as a result of the vision of St. Vincent de Paul. As founder of the order he has described the Order of the Sisters of Charity in words which, as some one has said, are not too well known and which will bear constant repetition. "Their convent," he said, "must be the houses of the sick; their cell, the chamber of suffering; their cloister, the streets of the city or the wards of the hospitals."

Dressed in plain dark blue robes and flaring white coronets, the Breton peasant headdress decreed by the founder of the order, the sisters have labored unobtrusively and ceaselessly for over a century in Charity Hospital. Motivated only by a love of God and a desire to serve Him, they receive no compensation beyond the merest subsistence. Their heroism and self sacrifice in battling disease have endeared them to all New Orlean's citizens. Financially, the sisters have struggled against terrific odds. The records show that the institution was always short of funds. At one time, in its early history, money for its support was raised through lotteries. This was later held to be illegal, and then the hospital was supported for a time by special taxes on amusements and gambling houses and from the fines derived from the criminal courts.

In 1859, in *Harper's Weekly,* an article allots to Charity Hospital its proper place of highest rank in this country and proclaims that New Orleans was one of the greatest medical centers in America.

An article concerning this ancient institution would be incomplete without mention of Sister Stanislaus, the present *(Continued on page 1055)*

BAD HABITS IN GOOD BABIES PART IV

By HERMAN M. JAHR

"SHE IS ALMOST 3 years old; yet she doesn't know how to play with other children. She simply stares at them for a while and then comes running to me crying. When a stranger approaches she screams with terror. Her shyness, in addition to the fear of strangers, is beginning to worry us. We really did not pay much attention to this sort of trouble until our new neighbor told me that this disposition is not natural for a child her age. In fact, she said the child is nervous." Mrs. Mater made it plain, however, that her neighbor's remarks, trained nurse or not, were uncalled for. The purpose of the visit was more for repudiation of the nurse's statement than for advice on her daughter's conduct. "There is not much one can do for that, I guess."

Lucille looked a picture of health. She sat in her chair absorbed in the dramatic recitation. Her eyes would twinkle every now and then. Any effort to change her position brought forth a warning, "What did Mother tell you?" The child remained motionless. She went through the physical examination with passive resistance, constantly watching the facial expressions of her mother. It was evident that mother and daughter understood each other, superficially at least. Mrs. Mater seemed pleased with her controlling influence and prided herself on her disciplinary attainments.

Shyness in a grown-up person is an undesirable trait, always difficult and often impossible to overcome. In the young child it is merely a bad habit, rather easily corrected, once the underlying cause is discovered and removed. It is important, however, to distiguish between shyness and indifference in the child; but this is not always a simple matter. A 4 year old boy did not care to play with other children. According to his mother he was a "model boy" and had never caused any trouble from the day he was born. He was a bit slow to be sure, but he took after his father, the mother hastened to explain. This child had a mild deficiency of the thyroid gland. Appropriate treatment administered daily brought about an almost immediate cure for his "shyness." He is now 8 years old and is doing fair work in the third grade in school. He is still taking the treatment. With the large majority of children, however, shyness is usually traceable to poor management and lack of understanding of the sensibilities of the growing child.

Some parents, unconsciously more concerned about their own personal importance than about their child's social progress, still cling to the Victorian dictum, "A child should be seen, not heard," and do not permit the youngster to enter into the family discussion. The child no sooner opens his mouth to utter a remark than he is warned, "Daddy is talking." Constant reproval brings about an attitude of "What's the use?" Some parents make a fetish of obedience in protest against the "fad of the new freedom." Others are fearful of allowing their children at large lest they may mix with the undesirable elements in the neighborhood. And who can deny that children are usually more fascinated by the hosts of the "unwashed" than by those more carefully reared? Why a 3 year old should single out a grimy, uncouth child as favorite playmate when there are so many acceptable boys and girls within reach may be difficult to explain. The child, however, usually has his reasons. Parents will do well to recognize that their consternation will accomplish little to correct this urban dilemma.

I do not mean to imply here that the child be reared without any sense of discipline. It is indeed well to implant the idea that the children in the household must learn to conform to the ideals and comforts of the entire family. One must remember however that neither conformity nor respect can be taught by exhortation or by squelching of the youngster's desire for self expression. The child should be encouraged to enter the family picture by participation in discussion of the various phases of the home. His remarks, regardless of immaturity of judgment or misuse of words, should never be ridiculed. He must feel that he is a part of the family circle. His inexperience in etiquette may make him a mild nuisance

on occasion; but as he grows, he will acquire the finesse of conversation in accordance with the custom and decorum of his elders. The child learns by imitation. People, anxious about the behavior of their offspring, must once and for all recognize that the philosophy of the child is that of simplicity and frankness. Only in that light must his conduct be judged. Every physician observes daily parental "butting in" on questions put directly to the child-patient. But let the poor youngster attempt to make an unsolicited remark, his mother will immediately resent it. "Mother is talking!"

One meets occasionally the other extreme—the parents ardent, if overenthusiastic, over the "new psychology." They allude to the 3 year old as the "little man" and give him as much freedom of action as if he were able physically and mentally to take care of himself. These pathetic little men go about in their haughtiness with an exaggerated idea of their importance, lording it over their "inferiors" with scorn and derision. At times one jolt is sufficient to cause these premature adults to shrink into a shell, taking with them their grievances and grudges to enjoy thoroughly the unhappiness of an inner world. They ultimately become the daydreamers in the classroom.

To sensitive parents every child, at one time or another, becomes a problem. Educated mothers and fathers, with an inclination to make mountains out of molehills, appear to be constantly at sea, worrying over methods and procedures to direct their child in the paths acceptable to society. They make sacrifices of every description to afford their offspring everything within, and too often above, their means, too often with disheartening results.

Lucille's parents illustrate this point. They are intelligent people of middle age. They waited fifteen years for a child, and now they stop at nothing to give their daughter happiness. Indeed, so the story goes, she was the liveliest baby the mother had ever seen. Until she was 2½ years old she was amiable and sociable and eager to perform whatever childish tricks she had at her command. She was a regular little actress. "As a matter of fact," Mrs. Mater finally brought out, "some of our friends predicted that she was headed for the stage. But Mr. Mater and I don't like that kind of life, and we both made up our minds to stop her before it was too late."

In reality the child is not particularly shy. She simply grew out of her baby tricks; and since the new acts were not encouraged, Lucille merely became a normal, quiet little girl with attributes characteristic of her age and her individual makeup. Whatever shyness may later develop will be the result of parental overanxiety rather than any inborn anomaly of her emotional equipment. Just now her mother views with alarm the great fancy Lucille has taken to a boy of her own age, who is not considered a desirable addition to the youngsters of the neighborhood. His father, though an intelligent fellow, for the past few years has had nothing but menial employment, which is quite a handicap in this particular residential section. The boy has few play-

things of his own and therefore admires Lucille in her bounty. He pays her homage and respect, and the girl would be a problem if she reacted differently to such genuine compliments.

Similarly the child's attitude toward strangers must be interpreted broadmindedly. There is little justification for expecting a child to go into ecstasy over the approach of some one whom he neither knows nor probably cares to know. At times a child may be indeed terror-stricken by an overexuberant stranger who thinks it his duty to administer "a big hug."

Most children show a certain degree of diffidence or perhaps bashfulness toward strangers. This attitude is not due to lack of sociability on the part of the child but rather to a lack of interest or mutual understanding. Shyness and fears of new faces develop slowly. They are invariably the result of exaggeration on the part of the parents and others around the child. These traits are drilled into him over a period of time; and thanks to the great amount of attention connected with such undesirable behavior, the child cultivates it, and it truly becomes a characteristic. He is known as shy and afraid of strangers. At first he is looked on as a sensitive or nervous child. Gradually he becomes a problem in personality. His parents adhere to their misgivings, the child to his reputation.

Where shyness evokes parental sympathy as a rule, stubbornness is usually productive of frank displeasure and not infrequently even of open hostility. Indeed, of all bad habits to which the child may be addicted, none is so intolerable to parents as is stubbornness. That a child should challenge adult authority is a direct insult not easily overlooked and practically never condoned.

Jean was a little over a year old when I first became acquainted with him. He is 6 years old now, and I still remember his first visit. He was a chubby though wiry baby with a scream that could be heard for blocks away. A bright little fellow with sparkling eyes, freckled face and an expression full of deviltry, he has made life miserable for his parents "ever since the day he was born," so his mother says. "You have never seen a mule who can boast of as much stubbornness as this kid," adds the father. "And the more you beat him, the better he seems to like it," both parents agree. "His older brother is just the opposite, and we have no trouble with his sister, who is a year and a half younger. The boy seems to have a mean streak in him. Tell him to sit down, he'll stand up. Tell him to remain standing, and he'll sit down. He pays no attention when you call him. Tell him to do something, and he'll growl, 'Let Bill do it.'"

Jean, listening intently to these complaints, beams with delight. He begins to pace the

floor of the office expectantly. Nor does he have long to wait. "I don't want to sit down. I want to get a drink of water!" When assured that he does not have to sit down he says that he wants to sit down anyway, "but not because Mom wants me to." The boy seldom hesitates to prove that he is master of the situation.

Looking into the boy's developmental history one would be surprised indeed, if the child were anything but stubborn. The fact is that the parents had ample warning of the approaching difficulties but would not heed any advice on training the child sensibly to discipline. The first year of his life he spent mostly in crying and refusing food. Although "no formula ever agreed with him," at the end of his first year he was considerably above average in weight and height. In response to his crying spells the mother would shout and scold and slap until every one around the house was exhausted, irritable and belligerent.

For a few months following the arrival of his sister, Jean was "behaving rather well." He would sleep through the night quietly. In the morning he would run a breakfast race with his 5 year old brother who, it appears, had a ravenous appetite when it was a question of winning the race. Cereal that Billy refused was never served. The contest would end by a good deal of praise for the winner. The latter in turn would tease his brother with all but complimentary remarks. Thus he was brought up on a regimen of forcing, scolding, teasing and slapping.

When Jean was not quite 4 years old he "ran away" from home. He did not run very far, to be sure; in fact, he merely sauntered down to the park some four and one-half blocks south of his home, but one must recall that child kidnaping was rampant in the minds of most parents at that particular time. When the police car arrived and Jean was picked up out of the back seat, Mrs. Miller promptly fainted. Mr. Miller's emotions took a more masculine direction. Women have ingenious ways of justifying their weaknesses. Mother Miller, for instance, insists that her fainting saved the boy's life. Had the officer hurried off instead

of attempting, as he did, to revive her, Father Miller, in his rage, would have beaten the boy to death. As it was, the first blow sent the child cowering to the floor. Mr. Miller, in turn, declares that that was just a pat compared to the numerous beatings the boy has had since then or that he will have, for that matter, until he learns to obey. "The kid needs it!"

Not long ago a 10 year old girl was admitted to a hospital. Besides being extremely stubborn, she had a habit of slapping every one, including physicians, who came to her bedside. The student nurses at first returned her compliments. Of the physician who failed to retaliate, the girl asked in surprise, "Ain't you gonna hit me back?" Within a few days, following strict orders for no one to "hit back," the girl's attitude began to change. Before she left the hospital she was a regular little mother to the children in the ward. Removal of the premium on fighting, a legitimate amount of attention and a little encouragement brought about an almost complete change in the child's outlook on her surroundings. Unfortunately, she had to be returned to an atmosphere of ignorance and intolerance, which her tyrannical parents call home. She is a good child, but as the intern expressed it, "She was just born out of luck."

A child is born neither shy nor stubborn. These undesirable qualities are forced on him by grown-ups, as a rule. Shyness develops when parents endeavor to inculcate excessive sociability, and stubbornness when they attempt to teach obedience. Both traits are maintained by the youngster for the purpose of commanding attention and power, shyness by the sympathy which it invokes, stubbornness by the enduring contest in an uneven match.

Some children are by nature quiet, perhaps in the same unreasonable way that some are thin and others stocky. To push a quiet child into boisterousness is as illogical as to overfeed a thin baby in an attempt to render him stocky. The latter procedure works havoc with the digestive system; the former is productive of emotional upsets, usually resulting in shyness.

About ten years ago a 15 year old boy ran away from home in an effort to avoid constant nagging about his "shyness." He was a quiet, studious youngster, with a philosophic turn of mind. Everything went smoothly until his mother took "study circle" too literally. From then on the boy had no peace. He had to join the "Y" and learn to box. He would come home black and blue from bruises on his body. He had to go to school dances, though he hated girls and felt clumsy on the floor. His mother spent hours studying child psychology; and the longer she studied, the graver the problem loomed. All her son was interested in was writing poetry and reading the classics. What was to become of him? One afternoon instead of going to his boxing class he hailed a westbound motorist—and was returned under police escort from a neighboring city. The boy is now instructor in English literature in one of the state universities. He is still a poor boxer and, his wife asserts, a clumsy dancer.

But most children who have shyness thus drilled into them do not end up so fortunately, probably because they do not have an enhanced intellectual capacity to compensate for their shortcoming. As a rule, the longer we talk about the youngster's shyness, the better he likes it. He cultivates it as an art, until he begins actually to feel it as a handicap.

As for stubbornness, when parents come with their complaints about their youngsters I recall a drawing in a magazine of a man pulling at the halter on a mule, urging the animal in no uncertain language to proceed in the direction forward. The mule, in stance befitting his species, carried the cartoonist's philosophic inscription, "My, what a stubborn man!"

HEALTHGRAMS — *FROM ARTICLES IN THIS ISSUE*

¶Patience, kindliness, sincerity and understanding are all important ingredients of that indefinable quality that characterizes a good attendant or nurse. *See page 977*

¶If you want your child to be a picture of health and to glow with youthful cleanliness, you have to work for it and teach him to work for it with you. *See page 1000*

¶The x-rays have facilitated industry, have aided in the detection and prevention of crime and have prolonged man's life expectancy by promoting his health, safety and general welfare. *See page 1007*

¶Our emotions play an extremely important part in our lives: They give purpose, color and zest to life. *See page 970*

¶If two healthy cousins of sound ancestry want to marry, there is no good reason why society should forbid them to do so. *See page 980*

¶The amount of light required for efficient vision is interrelated with the factors of time, contrast and size involved in the task. *See page 974*

¶The minimum air space that should be allowed for living apartments of any family is 600 cubic feet for each adult and 300 cubic feet for each child. *See page 1004*

CANCER "CURES" AND "TREATMENTS"

By ARTHUR J. CRAMP

The sad story of
MY FATHER'S GREAT SUFFERING
FROM CANCER
Read the following and be convinced
WE CAN CURE YOU.
Forty-five years ago my father who was himself a doctor, had a vicious cancer that was eating away his life. The best physicians in America could do nothing for him. After nine long years of awful suffering, and after the cancer had totally eaten away his nose and portions of his face (as shown in his picture here given) his palate was entirely destroyed together with portions of his throat. Father fortunately discovered the great remedy that cured him. This was over forty years ago, and he has never suffered a day since.
This same discovery has now cured thousands who were threatened with operation and death. And to prove that this is the truth we will give their sworn statement if you will write us. Doctors, Lawyers, Mechanics, Ministers, Laboring Men, Bankers and all classes recommend this glorious life-saving discovery, and we want the whole world to benefit by it.
HAVE YOU CANCER, Tumors, Ulcers, Abscesses, Fever Sores, Goitre, Catarrh, Salt-Rheum, Rheumatism, Piles, Eczema, Scald Head or Scrofula in any form.
We positively guarantee our statements true, perfect satisfaction and honest service—or money refunded.
It will cost you nothing to learn the truth about this wonderful home treatment—without the knife or caustic. And if you know anyone who is afflicted with any disease above mentioned, you can do them a Christian act of kindness by sending us their addresses so we can write them how easily they can be cured in their own home. This is no idle talk, we mean just what we say. We have cured others, and can cure you. Forty years experience guarantees success. Write us today! Delay is dangerous. Illustrated Booklet FREE.
DRS. MIXER, 286 State St., HASTINGS, MIC
CANCER its successful treatment without use of the knife. Hundreds of satisfied patients testify to this mild method. Write for free book. Tells how to care for patients suffering from cancer. Address Dr. W. O. Bye, Kansas City, Mo.
CANCER
IN WOMAN'S BREAST
ALWAYS BEGINS a small LUMP LIKE THIS and ALWAYS POISONS DEEP in ARMPIT AND KILLS QUICKLY
I Will Give $1000 if I Fail to Cure and forfeit $1000 or excel any other Dr. living.
No Knife or Pain—
No Pay Until Cured.
Written Guarantee.
No X Ray Swindle.
3-Day Painless Plaster.
Wonderful Discovery
9000 Cured. Cancer never pains while small. It Poisons to Death. Any TUMOR, LUMP or SORE on the LIP, FACE or BODY long IS CANCER. 120-PAGE BOOK SENT FREE. Testimonials of Thousands CURED after others failed. See or Write to Some
Write DR. & MRS. DR. CHAMLEE CANCER CURE Strictly Reliable
to 36 W. RANDOLPH ST., CHICAGO, ILL
KINDLY MAIL this to SOMEONE with CANCER
CURED AT HOME

> There is no one . . . susceptible to the ordinary demands of the human conscience who would withhold for his private means such an important matter as a cure for this disease [cancer].

THIS IS another way of saying that no exploiter of a secret "cure" for cancer honestly believes in his own magic. Yet advertised cancer cures persist. This, too, in spite of the setback given the trade some years ago by the postal authorities through the exercise of the power to issue fraud orders. One thing the post office officials were able to and did do was to stop the advertising and selling of mail order cancer cures to sufferers for self treatment.

But the profit motive in charlatanry is too strong for a lucrative traffic to be abandoned. While the mail order diagnosis of cancer was outlawed, the mail order treatment of the disease still remained within the pale of permissible malpractice. Concerns that had previously furnished "treatments" for self diagnosed cases of cancer later required either a statement from a physician that the case was actually one of cancer or, more generally, required the victim to come to the advertiser for a diagnosis.

In the latter case any blemish that the patient feared was cancer became, *ipse dixit*, cancer. In many persons, especially those past middle age, benign growths develop which they are fearful may be malignant. They go to a cancer treatment advertiser who after a superficial examination declares that the condition is cancerous. A caustic is then applied, and the blemish is burned out, often with appalling disfigurement and occasionally with fatal results due to the eroding of an important artery. But if the victim survives the treatment he goes back home a living and voluble advertisement of the cancer curer's skill!

A case that ended more happily than some came within my observation a few years ago. A young Iowa farmer suffering from a persistent sore on his face was convinced by the radio advertising of a cancer cure quack, Norman Baker of Muscatine, Ia., that he had cancer. He went to the quack's institution, where he submitted to the first application of the "treatment." Not satisfied that the concern knew much about his case he left the cancer institute and went to the dermatologic clinic of his state university. There, after thorough examination, he was told that he was suffering from nothing more malignant than sycosis, or barber's itch. Under scientific treatment the condition cleared

up, and the young man went home. Had he persisted in continuing the caustic treatment of the cancer quack he would, after much unnecessary suffering and some unquestionable disfiguration, have gone back to his community convinced that he had been cured of cancer and that the quack had saved his life.

Another investigation involved a cancer cure "sanatorium" in the Middle West, that of Perry Nichols, Savannah, Mo. This concern issued elaborate and expensive advertising booklets freely illustrated with pictures of the "before and after" type. In it were listed by states the names and addresses of hundreds of allegedly cured patients, thus giving artistic verisimilitude to what might otherwise have been a bald and unconvincing narrative. The cases of fifty-five patients in a single county were followed up through the cooperation of the physicians in that county. It was found that forty-seven of the fifty-five persons were still alive; eight were dead, who were evidently actual cancer victims. Of the forty-seven patients living, forty-three had had the diagnosis of cancer made by the cancer cure institution itself; the other three had been told by local physicians, who had made only clinical examinations, that their cases might be malignant. In not a single instance did any of the fifty-five patients have a biopsy, a microscopic examination of tissue.

It is not to be inferred that certain forms of cancer cannot be removed by means of caustic pastes. Superficial cancer can be burnt out by escharotic drugs; but such treatment is cruelly painful, prolonged, uncertain and potentially dangerous. In most of the advertising cancer treatment institutions the victims are kept under the influence of narcotics while the caustics are at work.

The commoner caustic drugs used by such concerns are salts of arsenic, zinc, lead or mercury. Often these active substances are mixed with vegetable products to conceal the escharotic ingredient and give the advertiser the opportunity of stressing the alleged vegetable nature of his product. For it is one of the curious superstitions of the layman that "purely vegetable" drugs must be harmless; this, too, in spite of the fact that some of the most virulent poisons come from the vegetable kingdom.

Innumerable other substances have been used in the preparation of cancer cures. This might be expected where quacks have no accepted treatment from which to start. In those diseases in which the scientific treatment involves the use of certain definite drugs the charlatan, when he invades that field, usually incorporates in his treatment the drug or drugs used by the scientific physician. Thus the epilepsy cure quack invariably uses either a bromide or phenobarbital in his mixture. In concocting a cure for cancer the quack or the ignorant but honest enthusiast has no yardstick by which to measure and ranges over the entire materia medica—and beyond. Such substances as bloodroot, red clover tops, sorrel, plantain leaf, croton oil, pokeweed and even the lowly potato (in poultice form) have gone to make up remedies for the alleged cure of cancer.

Some of the more extensively advertised American cancer cures of the past quarter century exhibit a wide range of composition. Among the cures declared fraudulent by the postal authorities and debarred from the United States mails, there were some having a common origin and described as combination oil cures. They were exploited by a related group: a father, D. M. Bye; two sons, W. O. and B. F., and a son-in-law, L. T. Leach. Analyses by the federal chemists revealed that cottonseed oil was the chief ingredient in these panaceas.

A cancer quack, S. R. Chamlee, who did a large mail order business until estopped by the issuance of a fraud order, operated from St. Louis, Chicago and Los Angeles. His remedy, described as "the most wonderful discovery on earth," was claimed to be "obtained from the Sandwich Islands." Government chemists reported that there were three parts to the cure: first a "cancer specific" consisting of over 99 per cent alcohol and water with minute amounts of iron, strychnine and saccharine; second, an alcohol-water mixture containing tannin, carbolic acid, opium and glycerin, and, third, an ointment of resin, beeswax and fat.

An Ohio quack, G. M. Curry of Lebanon, against whom a fraud order was issued, sold an elaborate armamentarium as a cure. It comprised antiseptic washes; "tonics" for internal use; crystalline carbolic acid and concentrated acetic acid, both tissue destroying caustics; cocaine as a local anesthetic; opium to deaden the pain; laxative pills to relieve the constipation produced by the opium, and some simple ointments.

RADIO-SULPHO BREW
This is the Greatest Internal Remedy in the World
Radio-Sulpho Brew
BLOOD PURIFIER AND TONIC
THE RADIO-SULPHO CO., DENVER, COLO.

RADIO-SULPHO OF DENVER WAS ONE OF THE CENTURY'S PICTURESQUE "CURES."

A Michigan cancer cure dispensed by Drs. Mixer of Hastings that flourished until debarred from the mails had for its most important ingredient potassium iodide. This drug, of value in the treatment of syphilis, has been often used by cancer quacks, for many a syphilitic sore has been self diagnosed as cancer.

From out of the West there came a few years ago one of the most picturesque cancer cures of the century, Radio-Sulpho of Denver. The nostrum itself was a strongly alkaline solution of sodium sulfide, having the odor of sulfureted hydrogen, the gas that imparts the distinctive aroma to overripe eggs. But for the cancer victim who used it there was worse to come. The instructions were to wash the cancer with the sulfide solution and then apply a "cheese poultice" made by kneading limburger cheese with glycerin! The Denver company which put out this product was incorporated for $1,000,000. The Colorado chemist who exposed the "cure" rather aptly characterized the nostrum as "a bad smell capitalized at a million dollars."

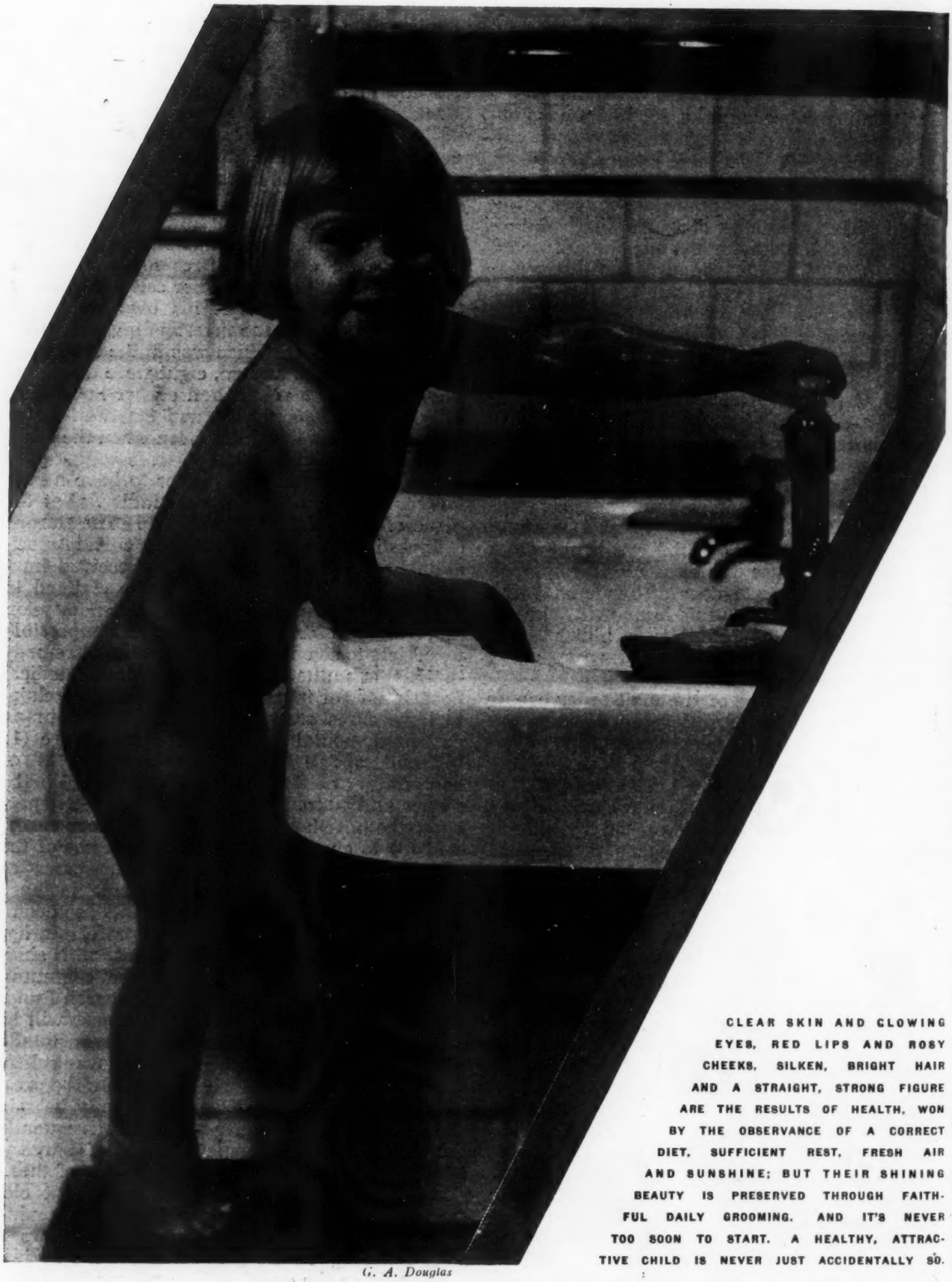
The public's interest in radium was early capitalized by the quacks. An alleged "radium impregnated fluid," "Radol," was sold from St. Louis as a cure for cancer. It contained no more radium than does dishwater. It was a solution of quinine sulfate in an acid solution. Such a combination exhibits a bluish fluorescence that the exploiter declared was a "glow" imparted to his nostrum by radium.

Since the outlawing of the mail order cancer cures there have been developed numerous institutions of dubious scientific standing advertising to cure cancer. They feature the fact that they do not use the knife; instead they substitute the use of escharotic or caustic drugs. Such concerns are usually owned by shrewd business men who hire renegade members of the medical profession to keep the business technically within the medical practice acts of the states in which they are operated. The general practice at such places is to accept all cases that come to them except those in which the patients are obviously *in extremis*. Every indolent ulcer, keratosis or sore, however innocent, is diagnosed as malignant; caustics are applied, and after the tissues have been necrosed and finally disposed of the patient is sent home, a "cured" case. When the patient is actually the victim of cancer the usual history is that he is kept in the institution until death is imminent, and he is then sent home. In this way the mortality records of the county in which the institution operates are kept within normal figures.

Lester Tilton, a man without medical or pharmaceutic training, living in the Middle West, developed a cancer cure institution using for his escharotic agent a zinc salt. This drug was mixed with burnt peat which furnished the mystery element so essential to quackery. The man was a good salesman and was successful in interesting well meaning but untrained persons in his "cure." One wealthy dupe was so "sold" on the scheme that he instructed his attorney to draw up a trust deed giving the quack a large sum of money for furtherance of the use of the "cure." The attorney, not unnaturally, suggested that a scientific investigation of the remedy be made before the money was turned over. The school of medicine of one of the largest universities in the Middle West was asked to investigate the claims and to observe the course and results of treatment by the remedy. The exploiter selected his own patients and carried out his own treatment. After many months the investigating committee rendered its report, which was to the effect that of twelve patients treated, eight were dead, one was moribund, two still had cancer both clinically and microscopically, and the twelfth was free from cancer—and had been when the treatment was begun!

Not every person who claims to have a cure for cancer is a quack or a swindler. Yet the name of such claimants is legion. The Bureau of Investigation of the American Medical Association has in the past few years received hundreds of letters from persons who claimed to have discovered or to have come into possession of a sure cure for cancer. Since it is impossible to subject to scientific test every alleged remedy that is submitted to the American Medical Association for investigation, persons who claim to have cures are asked to fulfil three simple and fundamental requirements. These are (1) to send a full and complete statement of composition of the remedy; (2) to furnish the names and addresses of at least twenty-five persons who have been claimed to have been cured, and (3) to give the names and addresses of the physicians who had diagnosed the cases as indubitably cancer. In not a single instance have these three simple requirements been complied with. The British medical profession has reported a similar course of action, with similar results, in connection with the communications to the Imperial Cancer Research Fund.

The likelihood that a cure for cancer will be developed or discovered by any person totally ignorant of physiology, histology, pharmacology and biochemistry is utterly remote. In the present state of our knowledge it can only be said that cancer in its earlier stages can frequently be cured by the competent use of surgery, radium or the x-rays or a combination of these. Early recognition is the most important element. Temporizing is fatal. The well meaning and thoroughly dependable friend who knows of a "sure thing" in the cure of cancer can be just as deadly as the quack. The sufferer from cancer who relies on a misguided enthusiast, however honest, will die just as surely as he who patronizes the most arrant cancer cure swindler.



G. A. Douglas

CLEAR SKIN AND GLOWING EYES, RED LIPS AND ROSY CHEEKS, SILKEN, BRIGHT HAIR AND A STRAIGHT, STRONG FIGURE ARE THE RESULTS OF HEALTH, WON BY THE OBSERVANCE OF A CORRECT DIET, SUFFICIENT REST, FRESH AIR AND SUNSHINE; BUT THEIR SHINING BEAUTY IS PRESERVED THROUGH FAITHFUL DAILY GROOMING. AND IT'S NEVER TOO SOON TO START. A HEALTHY, ATTRACTIVE CHILD IS NEVER JUST ACCIDENTALLY SO.

GROWING UP WELL GROOMED

By THELMA KNOLES

WE ALL LIKE to fool ourselves with the idea that children are naturally beautiful, that their skin is always soft and smooth and clear; that their hair is lustrous, thick and healthy; that their teeth are even and pearly white; that their bodies are strong and straight and graceful. Lucky children, we say! Yet youth, even extreme youth, does not always mean the possession of natural attractions.

Take a good look at the rough, chapped cheeks of many small children. Touch the wiry, stiff, dry hair of the little boy or girl who runs and plays in the wind and sun. Notice the film that can quickly collect on a youngster's teeth. See how some children slump, turn their feet out awkwardly and hang their heads.

When you dress Little Sister in a sheer linen with delicate touches of embroidery, does she look like a live doll in it, or do her knees look scaly and dark? Do her finger nails have crusty brown rims? Does her hair look like two whiskbrooms placed over her ears?

When you button Little Brother into his immaculate white linen suit what does he look like? Very often he looks as though he'd be much more at home in coveralls.

If you are a wise mother, you can prevent such disappointments. The answer is a beauty routine for children, and it should start as soon as there are two hairs to brush or one tooth to clean, and with baby's first bath.

Beauty treatments for children do not mean finger nail polish, the curling iron or just a touch of peroxide in the rinse to keep that lovely golden sheen in little daughter's hair! They mean a regular, daily performance of certain duties, and these duties grow into pleasures.

The tiniest baby can have his finger nails cared for. The cuticle may be pushed gently back while it is so soft. After the bath a little oil may be rubbed into the scalp.

The 2 year old can learn to brush his own hair before going to bed at night. He can scrub his hands and elbows and finger nails with a little brush and a pan of soapy water. Any child likes to play with soap and water. Of course, he will have his own toothbrush and a stool or box to stand on so that he can reach the wash-basin.

When the children come in from play at lunch and dinner time, let them do their own

handscrubbing, but supervise it. See that all the soap is rinsed off, and then finish with a dash of cold water over the face and neck. As they get older, you can explain that the warm water and soap clean the skin and that the cold water refreshes it.

The little girl who is old enough to start to school is old enough to have her own manicure set. This may be a simple collection of an orangewood stick, a few emery boards and a nail buffer.

If the right attitude about such matters is observed in the family, Brother may have a similar set without being considered "sissy."

After the bath or the evening wash-up a fragrant, soothing lotion may be rubbed over the face, neck, hands and arms, with an extra palmful massaged into small knees and elbows.

If you want your child to be a picture of health and to glow with youthful cleanliness, you have to work for it and teach him to work for it with you.

By starting very young and fitting such matters of grooming into the daily schedule it will become a fixed idea, and by the time a child has reached high school age he will have unconsciously acquired the habit of taking good care of his appearance, without being self conscious about it or thinking of it as vanity. You must stress the idea of cleanliness and neatness.

It is a good plan to play a game with a small child to win his interest. One way is to compare his body to the family car, as they both have to be cared for.

Daddy keeps the car washed and polished; therefore Sonny must keep his skin clean and smooth. Daddy works specially hard at shining up the fenders of the car; therefore Sonny must work hard on knees and elbows. The car must be wiped and rubbed vigorously with a cloth to preserve its gloss; therefore Sonny must make many strokes with the brush to preserve the gloss of his hair. If he has been flying kites or playing ball in the sun and wind, a little extra oil can be massaged into his scalp, just as Dad rubs a little polish on the car.

When once a child is fully conscious of himself as a machine to be kept in good condition inside and out, he is willing to do his part. You can remind him of what would happen to the car, if it were filled with kerosene and tar instead of gasoline; and he will stop to think of what happens to his body, if it is filled with candy and pastry instead of milk and vegetables.

You can show that mistreatment of the car inside or out will probably necessitate a trip to the garage, while mistreatment of the body means a trip to the doctor for repairs.

Clear skin and glowing eyes, red lips and rosy cheeks, silken, bright hair and a straight, strong figure are the results of health, won by the observance of a correct diet, sufficient rest, fresh air and sunshine; but their shining beauty is preserved through faithful daily grooming.

There is the matter of good posture. "As the twig is bent, the tree inclines" was never more true than when referring to children's bodies.

We are familiar with the daily exercises that baby is put through during his first year, but when the children are old enough to run around we are likely to think that they get plenty of exercise in their natural play. Even so, a set of regular calisthenics will benefit them, and it is a good habit to establish early.

If the children feel the urge to go acrobatic, spread an old quilt on the floor, and let them go to it. You might even get the urge yourself.

Sister may be thinking of her favorite moving picture star's graceful carriage, and Brother may be thinking of the full-back who made the All-American last year, as they do their knee bending and arm stretching, but the results will be good. Regular exercises may help to keep good posture and good figures, and they are valuable beauty assets to any man, woman or child.

In regard to posture, notice carefully how the small child sits and walks. Don't let him get into the habit of sitting with his knees folded under him and his little seat resting on his heels. You may think that no child would form the habit of sitting in such an awkward position, but a great many of them do it; and if it is allowed to go on, the knees will be flattened and deformed.

When a child is walking or standing see that his feet point straight ahead; never let him turn them outward. It is harmful to the arches and leads to an ungainly carriage.

If a fairy godmother were to grant a mother one gift of beauty for her baby daughter, the mother would probably wish for naturally curly hair. By the substitution of a little daily care and training many a little girl could have curly hair without the help of the fairy. If your child has naturally thick, shining, straight hair, don't torture her with metal curlers in order to produce a cascade of tight rolls on her head simply because a dimpled darling of the screen looks sweet that way.

When boys and girls reach the age at which they have that sudden and natural desire to attract the opposite sex they will appreciate all the foregoing years of faithful attention to the details of good grooming and posture. They will be free to concentrate on the arrangement of their hair and the choice of styles and colors best suited to them, without first having to get themselves in good condition.

Remember that a healthy, attractive, dainty child is never just naturally or accidentally so. His appearance is the result of faithful, daily care from babyhood on through the years.

NEWS and VIEWS

Ewing Galloway

A MODERN METHOD OF SECURING MORE LIGHT IN OFFICE BUILDINGS IS TO MAKE THE WALLS OF GLASS. TRANSLUCENT BRICKS PERMIT THE OCCUPANTS TO ENJOY THE HEALTHFUL EFFECTS OF INCREASED LIGHT AND SUNSHINE. SUCH WORKING CONDITIONS PROMOTE LUCID THINKING AND HIGH EFFICIENCY.

Acme

VENEREAL DISEASE AMONG THE INDIGENT WHITE PEOPLE AND NEGROES OF GEORGIA WILL BE TREATED IN THIS TRAILER CONTRIBUTED BY THE UNITED STATES PUBLIC HEALTH SERVICE.

How Clean Is Your House?

J. C. GEIGER
and
P. S. BARRETT

show that cleanliness, like charity, should begin at home

MUCH ATTENTION has been recently focused on the subject of industrial hygiene and the protection of the health of the worker. Public eating places have also, at least in most large communities, been brought under strict supervision of health departments to insure safety for their customers. Ordinances have been passed requiring proper storage of food in shops to guard against spoilage and to aid in insuring the customer that the food reaches him in the proper condition.

All these things can be done by law, but what of the home, which from time immemorial has been "a man's own castle" where the law may not enter? The average housewife would be insulted if she were told that her home was not clean; but experiments carried out on dishes and clothing washed in the home bring out undeniable evidence that many of the cleaning methods commonly employed today are antiquated and ineffectual. Perhaps if the living and sleeping rooms of the home were given as much attention as a factory and the kitchen were given "restaurant inspection service," Mrs. American Housewife might indeed feel that her reputation as a housekeeper had suffered materially—not, if you please, because she does not try, but because some of her methods are not based on scientific information. Let us then apply some of the rules of industrial hygiene and commercial sanitation to similar situations in the home and see whether the housekeeper is able, without a great expenditure for additional equipment, to do a better job in her routine duties.

Assuming that perishable food is in good condition when received, it behooves the home storage facilities to maintain this condition. Therefore perishable foods, such as dairy products and shellfish, should require immediate, constant and efficient refrigeration. An icebox thermometer is of considerable help. A casual inspection of many home refrigerators reveals the fact that many of them are incapable of keeping a proper degree of lowered temperature; in fact they act more as an incubator than a refrigerator. Cream sauces and cake fillings should not be allowed to stand uncovered at room temperature after preparation, and fruits and vegetables, especially if to be eaten raw, should be thoroughly washed prior to use.

As to the kitchen itself, thorough cleaning is essential not only for the refrigerator but for the sink, drain boards and tables on which food is prepared. This does not mean a casual wiping off with the dishcloth which has been lying around the kitchen subject to repeated wettings and dryings, accumulating particles of food and bacteria until it is a veritable source of contamination. This applies also to dish towels and mops. Carefully controlled experiments, conducted a number of years ago, show a high bacterial count of these articles, and the bacterial count did not materially diminish when they were simply washed out at home by ordinary methods. Subjecting such articles to boiling, repeated rinsing and the addition of an efficient chlorine disinfectant will result in a much more hygienic approach to the question of kitchen sanitation. If restaurants used the same methods of dishwashing that are carried out in the average home we would indeed have cause for complaint. Water is seldom hot enough to begin with, if the dishes are washed by hand and the dishes are not sufficiently subjected to the scalding process. It is true that when there is a communicable disease in the home special precautions are taken with the patient's dishes. Nevertheless the ordinary procedure is usually one that could be much improved. The "family" roller towel has been legislated out of existence in public places, but strange to relate it still exists in many homes, a distinct menace to health at all times. It should be abolished entirely, and in its place should be substituted the modern roll of paper toweling.

The plumbing fixtures in the home require special attention. Apparently, judging by the experiences of plumbers called to fix stopped-up drains, many people are unaware of the purposes for which a kitchen sink was made. Coffee grounds, vegetable scrapings and grease are not intended to be disposed of by this method; but nevertheless they constitute the main sources of clogged drains. Incidentally, when the housewife has reason to believe that grease is stopping up the sink, she should not pour lye down the drainpipe. The lye combines with the fat and produces a soap, which will harden and be impossible to remove. It is much better to rely on very hot water to dissolve the grease. Most basins and tubs have an overflow outlet; but as this overflow usually receives scant attention it consequently becomes a storehouse for accumulated organic matter and a source of contamination and odor. Proper flushing of this overflow with a disinfecting solution should be a routine procedure.

One of the first principles of good hygiene in the home is proper ventilation. While it will be many years before the average home is air conditioned, much may be done to secure ventilation. Fatigue is favored by faulty ventilation. The minimum air space that should be allowed for living apartments of any family is 600 cubic feet for each adult and 300 cubic feet for each child. Ventilation must serve a number of purposes and comply with a number of conditions before it can be considered satisfactory.

1. It must bring pure air from without in order to dilute and remove the products of respiration as well as other sources of vitiation.
2. It must maintain the air within the room at a proper temperature and humidity, and further, it must keep the air of the room in gentle and continuous motion.
3. It must remove the gas odors, bacteria, dust and other substances that contaminate the air of enclosed spaces.
4. It must dilute and remove the impurities produced by the burning of gas, lamps and other sources.

The purpose of ventilation is not to bring outdoor conditions indoors. The art of ventilation consists of adapting indoor conditions to indoor life. In all systems of ventilation, the factor of intelligent operation is essential to success. No method is fool-proof, and no method will work by itself. Even window ventilation requires watchful attention of those in charge of individual rooms. Constant vigilance is the price of pleasant and wholesome conditions. Whatever system of ventilation may be adopted, it is wise to flush rooms fre-

quently with fresh air and to flood them with sunshine. This helps to blow out the accumulated dust and bacteria, to oxidize organic matter that collects as a film on all surfaces, to diminish odors and generally to purify the dwelling.

Heating also requires some care and attention. The first thing necessary is to secure a thermometer so that accurate information may be available. If one leaves the question of temperature to guesswork, great variations may be expected, and the result is usually a much overheated room. A temperature of 68 F. is generally considered the most desirable for all-round living conditions, with slight variations on either side permissible to suit individual requirements. Elderly people may require a little more heat, and young people at play require much less. Moisture should be provided in an artificially heated room by some sort of humidifier, such as a pan of water on the heater.

Cleaning in the home is preferably accomplished by means of vacuum methods. If this is impossible, sweeping with a dampened broom and mops to keep down the dust is much better than dry sweeping.

Home washing undoubtedly has much improved since the introduction of the washing machine. Here again, however, one runs into difficulties. Insufficient water, water not hot enough and inadequate cleansing agents, while perhaps removing the gross visible dirt, do not make for real cleanliness. Commercial laundries are often criticized because they put chemical agents in the wash water; but the fact remains that bacterial counts of clothes washed at home without going through the process of boiling or soaking in a disinfectant solution are much higher than those of routine commercially laundered articles.

Every one has seen a common cold affect every member of a family in rotation. This means an unbroken chain of contact, either personal or through intermediate objects such as towels, handkerchiefs and utensils. Proper disinfection of all these things would cut down the chance of spreading the infection. Any one who touches food in any manner whatever should wash his hands with running water and soap, afterward drying them on a clean towel.

With these things in mind a housewife must of necessity realize that housekeeping brought up to modern standards is not the simple thing of grandma's day. We have much additional information since that time on the cause and method of spread of various diseases and on the proper method of preparing and preserving food. While the housewife does not of necessity study all these subjects, she should at any rate know the simple rules and codes which have been outlined. To follow them means a more healthy family group and in the end a happier group.

NURSING in the HOME (Continued from page 979)

soiled linen in the laundry bag. If the doctor comes in in the middle of the process, there is no need for apologies. Keep useless articles picked up, such as used glasses, papers and so forth. A paper sack, pinned to the bed, or a waste basket helps the patient to dispose easily of tissue used in lieu of handkerchiefs and lessens the danger of infection.

9. On a towel rack within easy reach of the patient, place a wet washcloth and towel. This will enable the patient to keep his hands in good condition and will relieve the attendant of many steps.

10. For the patient who is able to sit up, a triangular pillow or a low or medium-backed kitchen chair substitutes well for a back rest. Clever bed tables and a tray with folding legs are to be had for a very nominal sum; or a wooden box about 8½ by 21 by 12 inches with the bottom and two long sides removed makes a good substitute bed table. A bed table greatly increases the range of activity for the convalescent, serving as it does for writing, for games and for reading as well as for holding the tray.

Emotional balance, the second requirement for the attendant, is of no less import than her efficiency in the mechanics of adequate care. The sick person, first of all, is not a normal person, nor is a normal relationship possible. In place of the personal relationship of husband and wife, child and mother, or sister and sister, a professional relationship, that of patient and nurse, should be set up. Because it is hard to be impersonal with a person whom one loves, caring for one's own family is exceeding difficult. If you undertake it, promise yourself that you are first of all the nurse and then the wife, mother or sister.

The patient's welfare is everything; no thought for the attendant's welfare should be asked of the patient. The only excuse for ruthless selfishness is to be found when one is very ill. It is not right that the very sick patient should add to his troubles by enduring discomforts which could easily be rectified if he did not "feel sorry" for the attendant. Often I have seen patients really suffer for a drink, be uncomfortable because the covers were too heavy or too light, or get a headache because the light was wrong, because they had not the heart to ask for anything more. Not until one is helpless does one realize how many and varied are even minimum needs. The finesse of nursing is often (Continued on page 1035)

X-RAYS

In the Sciences and Arts

***B. R. KIRKLIN** contributes the first article in a series on the value of the x-rays to public health and to the practice of medicine.*

IT IS HARD to speak of the roentgen rays, or x-rays as they are familiarly known, without using laudatory superlatives and resounding adjectives applied so often to less important matters that they have all but lost their meaning. Yet such adjectives could be applied freely, aptly and sincerely to the roentgen ray, for it is one of the most useful agents that has been brought to the service of man. It contributes substantially to his health, safety, comfort and general welfare. Consider the manifold capabilities of x-rays: They penetrate materials that are opaque to ordinary rays of light, affect photographic films and plates, cause certain substances to glow or fluoresce, influence the growth and function of animal and vegetable cells and alter certain chemical compounds. Possessing such varied properties, x-rays have come into common employment in the study of physics, anatomy, physiology and pathology, in the diagnosis and treatment of disease, in research into embryology and genetics, in the industrial arts and even in criminology.

The dramatic discovery of x-rays is an oft told and fascinating but perhaps apocryphal story. Late in 1895, Wilhelm Konrad Roentgen, professor of physics at the University of Wurzburg, was conducting experiments with a Crookes tube, studying its emanations when an electric current was passed through it. By accident the tube was placed on a book, within which was a flat key serving as a bookmark, and beneath the book was a photographic plate in an envelop impervious to light. When the plate was developed it depicted the shadow of the key. Obviously the shadow had been produced by hitherto unknown rays that had penetrated the book but not the key. According to another version the tube was effectively shielded with cardboard, and a black line appeared on a piece of sensitized paper lying near. In a third account it is related that the fluorescence of some crystals lying near the tube was the first guiding phenomenon observed.

Whatever the exact circumstances may have been, Roentgen discovered the penetrative property of x-rays. Like all scientific discoveries it was a development from a long line of antecedents. More than two centuries previously Nollet had made an "electric egg," a partially rarefied bulb of glass, which emitted crackling sounds when energized by a static machine. After that time, improvements were slowly made possible by the work of Faraday, Geissler and Plucker. Hittorf contributed research. Crookes described the cathode stream in 1879. Hertz and Lenard added to knowledge of the stream. Yet none of these facts detract from the importance and glory of Roentgen's discovery, for only through his work did useful application of x-rays become practicable.

Nollet's electric egg, elaborated further by Plucker, was the prototype of all x-ray tubes. An x-ray tube is essentially a bulb, sealed after almost complete exhaustion of its air content.

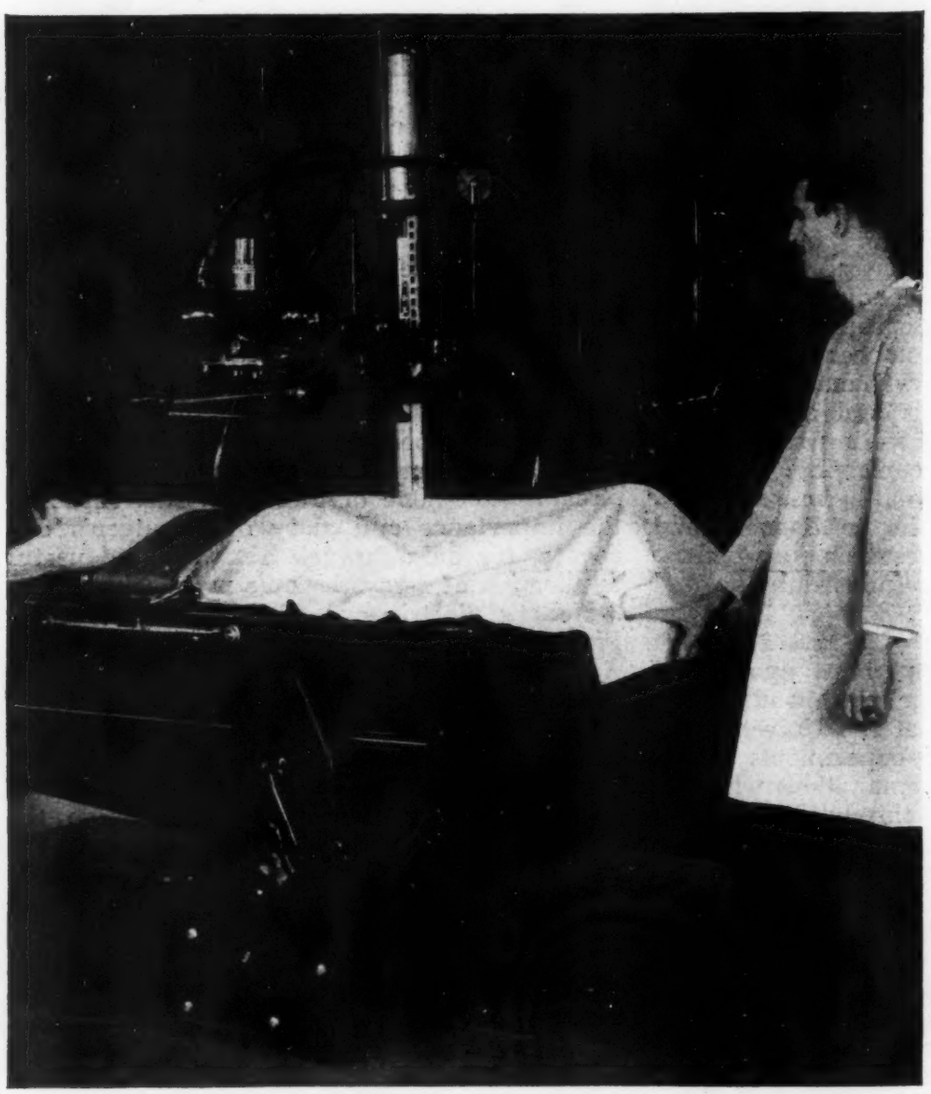
Implanted in the tube are two separated electric terminals. A unidirectional electric current passed through the tube is obliged to traverse the space, or "jump the gap," between the terminals, and x-rays are generated at the anode, or positive terminal.

At first the direct current from static machines was used; but later, transformers were constructed to produce unidirectional pulsating current from alternating current, and such apparatus is now standard. Generators have been vastly improved, and some that are capable of delivering a million volts have been

built. With the hot cathode tube a relative vacuum of any degree can be maintained, and x-rays of varying qualities can thus be produced. More sensitive fluorescent screens for roentgenoscopy have been designed. Similar screens are now used to intensify the radiant effect on x-ray films. To all these and many other advances, Americans have made outstanding contributions. But through all these elaborations runs the unbroken thread of principles discovered by Professor Roentgen.

Often persons unfamiliar with x-rays have imagined that the rays are illuminative and that with them, hidden objects can be seen, just as the furniture in a room can be seen through a window. Of course this is not true, and the fluoroscopic evidence of things concealed might better be compared to the appearance of dense objects in a thin paper bag held toward a bright light. Here, only shadows and silhouettes are seen, not the objects themselves. Likewise, only shadows are depicted on an x-ray film. Opacity to the rays is proportionate to the weight and density of the objects photographed; thus materials of different densities are represented by shadows of proportionately different intensities. Thus the bones of persons and animals are depicted fluoroscopically as dense, black shadows within the fainter shading produced by the enveloping flesh. In an x-ray film, which is a negative, contrasts are reversed; bones are shown in white, and the surrounding flesh is depicted in varying shades of black.

When the news of Roentgen's discovery was flashed over the world, the applicability of x-rays to medical science and art was immediately obvious and overshadowed all other potentialities of the new agent. Among the first illustrations published in the medical journals was that of a human hand in which the bones stood out as clearly as if they had been denuded of flesh. Soon the method was applied to the diagnosis of fractures and dislocations. For many years this was the chief practical use of x-rays in medicine, although x-ray plates of the lungs and other internal structures were made occasionally. But early apparatus was slow and inefficient; the technic was imperfect, and



THROUGH THE DISCOVERY OF THE X-RAYS A SIXTH SENSE WAS ADDED TO THE FACULTIES OF MAN, FOR THEY REVEAL THE INVISIBLE. NO ADJUNCT TO MEDICAL EXAMINATION EXCELS THESE RAYS EITHER IN SCOPE OR IN RELIABILITY.

the experience necessary to interpret the shadows obtained had not yet been acquired. All these deficiencies have largely been corrected. Today, x-rays are used advantageously to disclose or identify most of the diseases of man, or to determine their exact site and extent or to reveal hidden complications.

X-rays are relied on not only to demonstrate the details of fractures and dislocations but also to disclose the presence and determine the character of infections, tumors and deficiency diseases of bone. Diseases of natural cavities in bone, such as the accessory sinuses of the nose and the cells that communicate with the ear, can be revealed. Tumors of the brain sometimes can be exhibited directly; often their presence can be inferred from pressure erosion or displacement of other structures; as a final resort, any deformity attributable to a tumor can be discovered through a process known as ventriculography, in which an x-ray photograph is taken after air has been introduced into the cavities of the brain. Soft tumors pressing on the spinal cord cannot be revealed directly, but any resulting erosion of the bony canal can be shown; and after an opaque fluid, such as iodine suspended in oil, has been injected into the canal, the shadow of the iodized oil will be interrupted or distorted by the tumor.

Normal lungs are highly transradiant, and virtually every pulmonary disease produces anatomic changes revealable by x-rays. Early tuberculosis is often found by this method of examination when symptoms and clinical signs are not sufficient to establish the diagnosis. One of the most skilful physicians concerned with the diagnosis and treatment of tuberculosis of the lungs has said that the lungs of no patient should be considered sound until an x-ray examination has been made.

Certain diseases of the heart produce changes in the cardiac shadow that are characteristic. Likewise the aorta, the great artery arising from the heart, and its first branches are readily depicted by x-rays, and some of the graver diseases of these vessels can be recognized.

Without special measures the alimentary canal, comprising the esophagus, stomach and intestines, is not amenable ordinarily to investigation with x-rays, because its shadow is lost in that of the enveloping tissues. But by giving by mouth harmless, opaque materials, such as barium sulfate in food or drink, so as to coat the mucosal lining or fill the canal the internal surface or configuration of the channel is depicted clearly, and disease can be discovered even in early stages. For example, an ulcer of the stomach produces a crater-like depression in the mucous membrane, and when the crater is filled with barium it appears either as a denser spot or as a budlike prominence on the shadow of the stomach. A tumor of the stomach intrudes into the channel and deforms the barium shadow accordingly. Similar considerations apply to the large intestine; but in examining this portion of the alimentary tube an enema containing barium sulfate usually is employed.

Similar employment of other opaque substances for contrast in other parts of the body has vastly increased the diagnostic field of x-rays. Gallstones containing a high content of lime salts cast characteristic shadows, and disclosure of such concretions was an early achievement. Unfortunately, in a large proportion of cases gallstones do not contain sufficient lime to produce shadows. Besides, disease of the gallbladder often exists without the formation of gallstones, and for many years it was impossible to discern such disease. About ten years ago, however, it was found that certain compounds of iodine, when injected into a vein or taken into the stomach, are carried by the blood stream to the liver and excreted in the bile, which enters the gallbladder and is there concentrated until the iodine content becomes sufficiently dense to produce a shadow. If gallstones devoid of lime are present, they appear as translucent spots in the shadow. Small tumors in the gallbladder produce characteristic clear spots. Further, if no shadow of the gallbladder appears, it is evident that either the ducts are obstructed or the ability of the gallbladder to concentrate bile has been impaired or lost, and thus it can reasonably be inferred that the biliary tract is diseased.

Concretions that sometimes form in the pancreas, bladder, kidney or elsewhere can usually be disclosed. A shadow of the kidney is readily obtainable, and thus enlargement or diminution of the organ by disease can be shown. By retrograde injection of opaque fluids into the bladder and renal passages, obstruction and other pathologic conditions of the urinary tract are demonstrable. Only a few years ago it was learned that certain compounds of iodine when introduced into the blood are excreted chiefly by the kidneys and thus make it possible to depict the urinary passages. This method is now employed frequently in suitable cases.

The configuration of the upper surface of the liver can be seen distinctly, and often alterations of contour produced by disease are demonstrable. Occasionally the shadow of the spleen is visible. When it is necessary to examine these organs more thoroughly, compounds containing thorium may be given. The thorium, which is radiopaque, is deposited in the liver and spleen, and shadows of both are thus obtained.

A well known use of x-rays is to disclose foreign objects in the flesh, bronchial tubes or alimentary canal. Metallic objects, such as bullets, safety pins and needles, can be shown distinctly; and with care, bits of glass can be

revealed. Splinters of wood usually cannot be depicted. Beans, grains of corn, nut kernels or bits of food inhaled into the air passages are not directly demonstrable, but effects resulting from obstruction of bronchial tubes can be shown. Nonopaque foreign materials in the esophagus, stomach or intestinal tract can be disclosed by giving a suspension of barium sulfate, in the shadow of which the foreign object appears as a clear spot. With accessory apparatus the situation of foreign bodies can be determined rather precisely, thus facilitating their removal.

In all applications of x-rays to medical diagnosis the necessary methods of examination are not altogether simple, and the results are not automatically self explanatory. On the contrary, skill derived from experience both in technic and in interpretation is absolutely required. Always the result is shadows, and shadows only. Their diagnostic quality depends on the appropriateness of the technic, their meaning on the judgment of the examiner. Sometimes the shadows speak decisively, sometimes doubtfully and sometimes not at all, for many diseases are not demonstrable with x-rays. Notwithstanding these reservations, no adjunct to medical examination excels the x-rays either in scope or in reliability.

The biologic effect of x-rays—their power to influence the growth, reproduction and function of animal cells, even to destroy them or give rise to malignant disease—was not at first known or even surmised. Early workers with the new agent exposed themselves to it repeatedly and for long periods without thought of injury. After a time, most of them had painful inflammations resembling sunburn on exposed surfaces of the skin, especially of the hands. In many instances the so-called burns did not heal but became intractable, malignant ulcers that eventually caused death. The sacrifice of these men was deplored, but it stimulated their successors to make further investigations. It was learned that normal cells withstand x-rays of certain qualities and in certain amounts, that injury follows application of rays of improper quality or in excessive amount and that ill effects can be prevented by selecting rays of suitable character and passing them through thin sheets of metal, such as aluminum or copper, or limiting the time of exposure. Most important of all, it was found that cells affected by certain diseases could be restored to normal or, if necessary, destroyed.

As a result of these discoveries the hazards formerly incident to application of the rays have been eliminated almost completely, and x-rays are now employed safely and successfully in the treatment of numerous diseases. Many conditions, whether benign or malignant, not only of the skin but also of deeper tissues and internal organs, respond favorably to

BY USE OF THE X-RAYS IT IS OFTEN POSSIBLE TO DETECT TUMORS OF THE BRAIN AND SKULL.

irradiation. Even in apparently hopeless cases of cancer, x-rays alone or in combination with radium usually relieve pain and retard progress of the disease and exceptionally seem to effect cure. In recent years, x-rays have been used with notable success in the treatment of acute local infections, such as boils, carbuncles, abscesses and infections of the salivary glands.

Research with x-rays has yielded much practical information regarding the anatomy and physiology of man and animals. Most bones develop from several centers of ossification, and the time at which union occurs can be determined with facility. Certain formerly accepted but erroneous beliefs concerning the form and situation of the normal stomach have been corrected. In the majority of persons and especially in women the stomach is long and tubular, rather than short and bulbous, and often its most dependent portion lies far down in the abdominal cavity. Likewise, much has been learned regarding the process of digestion, the movements by which food is carried along the alimentary canal and the time required for the digestion of various food materials. Changes in the form and position of the heart at each heart beat have been studied with profit, and much light has been thrown on the physiology of the gallbladder.

In the field of biology the embryonic growth of animals, such as the guinea-pig, has been accelerated by small amounts of x-rays and retarded by large amounts. Monstrosities have been produced by irradiation. Flour weevils have been killed and their eggs destroyed.

X-rays have contributed generously to the solution of problems in physics, such as the constitution of atoms and their arrangement in various metals. With x-rays the crystallographer has been enabled to measure the distance between molecules in *(Continued on page 1049)*

SHOULD COUSINS MARRY?

(Continued from page 982)

But they were certainly not weaklings; they showed abundant physical and mental energy. Cleopatra VII, herself, has suffered at the hands of romanticists, from William Shakespeare and John Dryden down to the latest radio crooner. Nothing can be said against her character until she fell into the hands of two notorious old roués, Julius Caesar and Mark Antony. She came to the throne a young girl, facing the impossible task of preserving her dynasty and country from the conquering power of Rome. Lacking military strength she relied on blandishment and intrigue.

Early in life she married two of her own brothers in succession; then Julius Caesar; then Mark Antony. All her children were murdered while young except Cleopatra Selene, her daughter by Antony. This girl, who proved herself a worthy descendant of the dynasty in energy and ability, married Juba, son of the king of Numidia, and became queen of Mauretania, building a splendid capital at what is now Cherchel, on the coast of Algeria.

Other cases of customary brother-sister marriage in royal dynasty are to be found in Hawaii and ancient Peru. These illustrations are often cited by students who hold that the Egyptian civilization spread across the Pacific to the New World. What more natural, they ask, than to recognize in this unusual custom of royal families in America a transplantation from the Nile?

In the two noteworthy dynasties I have described, close inbreeding was practiced on a larger scale, for a longer period of time, than in any other instance known to me in detail in the human species. The process is of course familiar to the farmer. Every great breed of live stock has been built up on continued and intensive inbreeding, the mating of brother and sister, of father and daughter, of father and granddaughter, and so on. Thus the desired qualities come to be more and more concentrated.

If defective animals are born, the stock breeder sends them to the butcher and continues to breed only from the best. In the human family the defectives remain to give cousin marriage an ill repute.

Experimental inbreeding of small animals over 50 or 100 generations has in recent decades cleared the problem up completely, from a scientific point of view.

Biologically, cousin marriages differ from others only because the husband and wife have the same ancestry to the extent of 50 per cent. If this ancestry contains good traits, the offspring will benefit by getting a double dose of them; they may excel their parents. If this ancestry contains bad traits, the offspring likewise get a double dose of these and are handicapped accordingly.

Human characteristics develop from the activity of a double set of elements, genes, in the fertilized egg cell. One member of each pair of genes comes from the father, the other from the mother; and the pair act together to determine the results. There are some sorts of genes which seem to produce little or no visible result in certain combinations but a marked result in other combinations. This is true in some instances of genes which produce such defects as feeblemindedness, congenital deafness, congenital blindness and the like. One of these elements may be passed along from parent to offspring for generations without producing any visible effect until finally it meets another like itself and gives rise to an unexpectedly defective child.

In a cousin marriage there is a greater likelihood than elsewhere that both parents will be carriers of the same concealed defect or, speaking technically, the same sort of recessive gene. Coming together, these genes produce a surprising result; and the wiseacres exclaim, "There has been nothing like this in the family before. This is the result of cousin marriage."

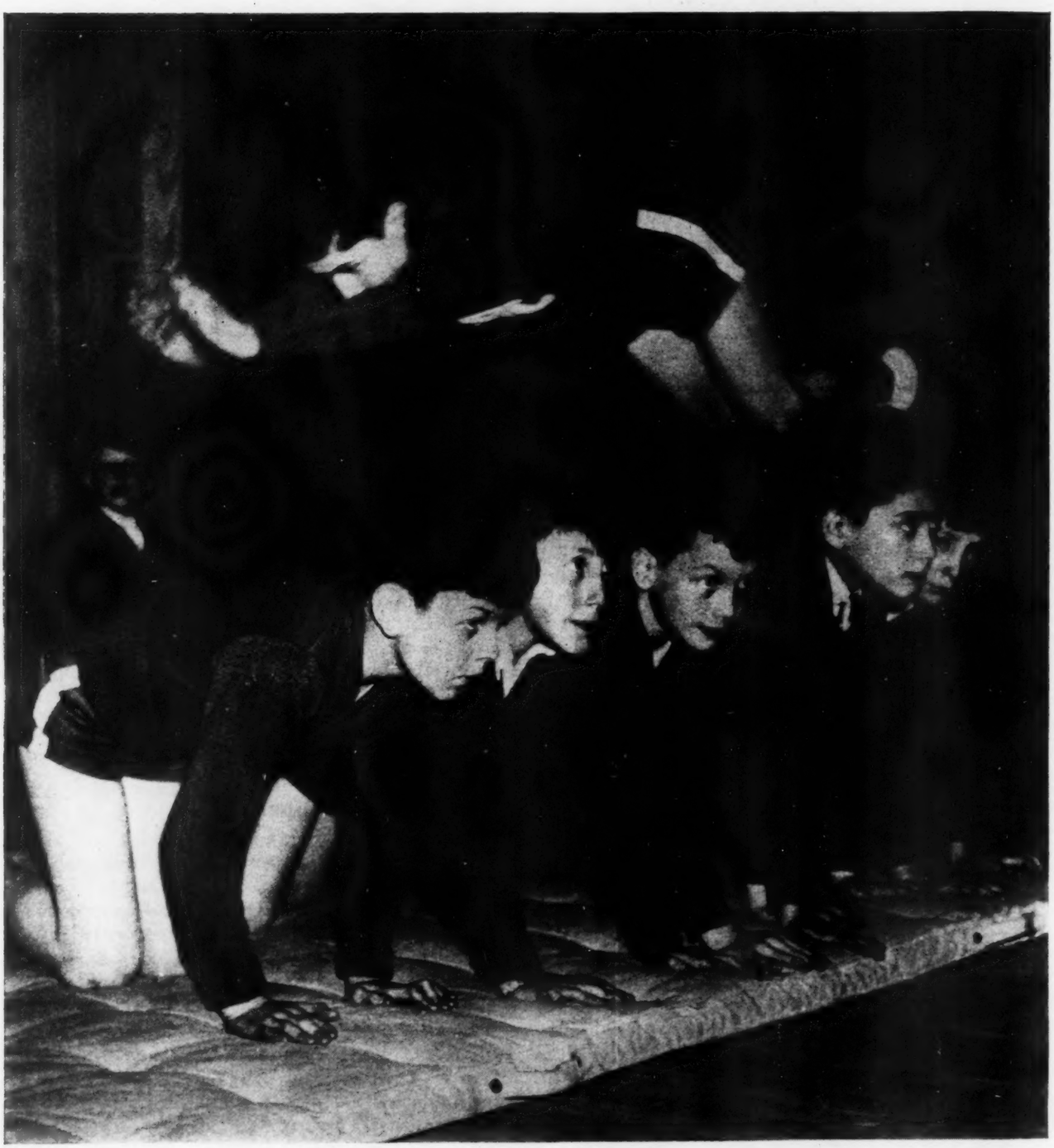
From the point of view of inheritance the question of whether cousins should marry is merely a question of what kind of inheritable traits they carry. If they come from sound ancestry manifesting good qualities and no defects, the offspring of the marriage should be the gainers. If there has been some important defect in the ancestry in the past, even though the man and woman in question do not show the defect themselves, each may be carrier of one of the genes that, brought together, will again give rise to that defect.

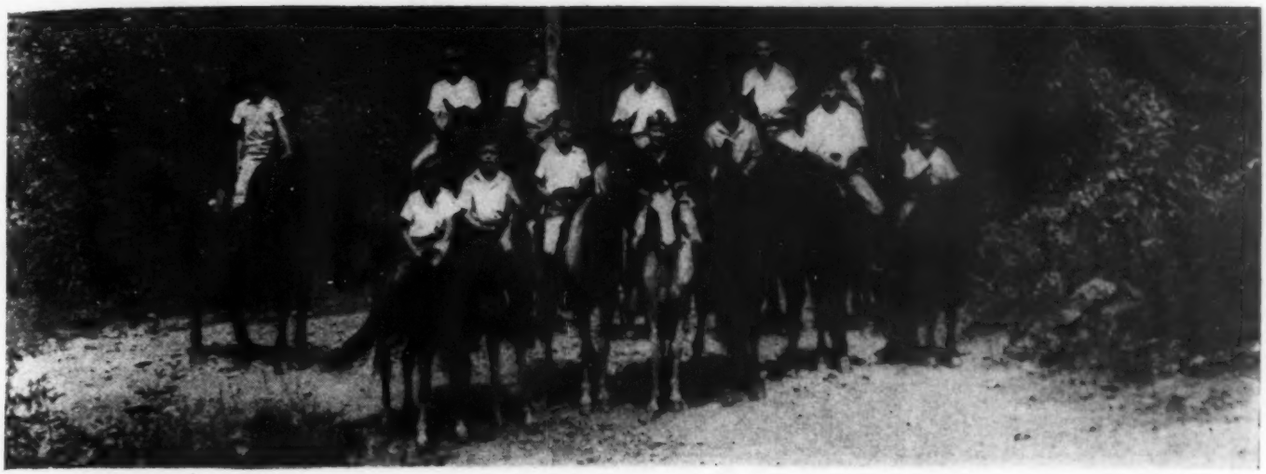
Suppose for the sake of illustration that 1 person in every 10,000 of the American population is afflicted with hereditary deafness of the recessive type; then about 1 in every 50 normal persons, with perfect hearing, probably carries one of the recessive genes for deafness. If the chance that an average person carries such a concealed gene is $\frac{1}{50}$, then the chance that his cousin also does so is $\frac{1}{8}$; and a marriage between these two normal persons will give a chance of $\frac{1}{50}$ times $\frac{1}{8}$, or $\frac{1}{400}$, that in a cousin marriage each of the partners will carry this defect. In that case, 1 in every 4 of their children will be expected to be deaf; so in a cousin marriage, on the hypothesis mentioned, the chance of a deaf child is $\frac{1}{400}$ times $\frac{1}{4}$, or $\frac{1}{1,600}$, compared with $\frac{1}{10,000}$ for the whole population. In other words, two nor-

(Continued on page 1053)

Sportsmanship Preferred

Who is America's underprivileged child? Is he the happy-go-lucky youngster of the tenement or the pampered scion of wealth? In this article on today's training for tomorrow's leaders FRANK HOWARD RICHARDSON advocates a sporting chance for the poor little rich boy.





WHO IS America's underprivileged boy? Is he the poor boy, for whom society has provided gymnasiums and swimming pools, camps and athletic fields? Or is he the one whose family is in comfortable circumstances and can buy him anything he wants except just such opportunities as these supply for making friends and chums of his own age? Fritz Orr, founder and director of Atlanta's famous club for boys, thinks it is not a question of financial status at all but rather of the opportunities available for such contacts.

This 30 year old business man, expert horseman and ex-athlete of the University of Georgia, having worked with boys in summer "Y" camps had become deeply impressed with their motto, "God and a good time are friends"; and he didn't see why these good times couldn't be enjoyed by some of the boys throughout the winter months. Yet there didn't seem to be anything he could do about it, until something happened. As a result of this something, the well-to-do boy of Atlanta has as good a chance today as though he were a poor boy from its recently demolished slum areas!

It all began when one of the leaders among that city's legal lights suggested that Fritz Orr start a small club for boys whose homes were in the beautiful semisuburban section of large estates and who therefore were deprived of the comradeship of other boys, unless a chauffeur or other servant happened to have a son near the age of the owner's boy. And boys from 8 to 10 need companions desperately. This club was to meet in the afternoons after school in the lawyer's beautifully wooded grounds. From the start it was to be placed on a financial basis in consideration of the time involved.

So it was that this young society man found himself being paid for doing the two things he liked best to do in all the world: playing around with boys and teaching them about horses. Born and brought up in an old Georgia town among the foothills of the southern Appalachian Mountains, he had hiked and camped and cooked in the open with his father, an architect by profession and a friend of boys by choice.

When he entered the university the cavalry unit of the R. O. T. C. captured his interest. His spare time was divided between track and the cavalry stables. He was leader of the trick riding squad, played polo and was captain of the crack cavalry troop as well as captain of the crosscountry track team.

Now that he found himself meeting a group of fifteen boys twice a week, it was up to him to improvise equipment and activities for them. An athlete himself, it was natural for him to employ formal athletics; an outdoor man, the woods gave him suggestions for less formal activities; a horseman, he wanted his boys to learn to ride.

Atlanta parents of prominence were not slow to realize what it meant to their sons to have the companionship of boys of their own age, under the magnetic leadership of a man who combined ideals of sportsmanship, outdoor living and good citizenship with a practical ability to put these ideals across. So it was not long before a second group, 6 and 7 year olds this time, were meeting and using the estate of the editor of the oldest newspaper in the city.

By this time the rather makeshift equipment was proving wofully inadequate for the increasing membership of the two groups. This was especially evident when rainy days drove them from the outdoors to the covered porch of some boy's home. Here one of the activities extemporized was a game of animated checkers, the big checked porch rug for a board, and the boys leap-frogging all over the place as the game grew in interest and intensity! The time had come for giving the club a local home and a name; so the "dads" were appealed to.

Four of Atlanta's leading citizens, a vice-president of the largest manufacturing plant, a lawyer, a stock broker and an editor, drew up a contract. According to its terms, they and others who might join them were to lend,

without interest, enough money to purchase a permanent site for buildings and playgrounds.

The ideal seemed fulfilled when a woodland tract of fourteen acres was purchased in the heart of the estate section on Nancy Creek, bordering the historic Pace's Ferry Road, with another small creek, or branch, supplied by springs on the ground several hundred yards away. As it is 30 feet wide and deep enough for paddling, yet not dangerous for nonswimmers, this can be the starting point for a canoe trip without interruptions all the way to the waters of the Gulf of Mexico.

And now three groups were meeting, with two afternoons of the week reserved for each. There were the Mites, aged 6 and 7; the Midgets, 8 and 9, and the Giants, the original group now grown to 10, 11 and 12. The total membership was approaching the limit, which had been set at 100.

The first task was to build a clubhouse. This houses a gymnasium for indoor sports, with a huge fireplace at one end for big logs. On the floor below is a workshop, electrically equipped, with all sorts of tools for arts and crafts. Next came the building of the stables, with a saddle room for the accommodation of the saddles, bridles and wagon harness used by the dozen or more horses and ponies always available.

A regulation graded and sodded football gridiron, a baseball diamond and an outdoor riding ring give opportunities for formal exercise, while 30 miles of trails cut through the surrounding woods give ample outlet for the activity of boys cooped up in school all day. The boys themselves have built a swinging bridge, mountain style, across the creek; a roller coaster, and an Indian village where they can put into practice what they learn about the fascinating lore of the red man.

How do these youngsters adjust themselves to the demands of group living? Many come from homes where wealth has restricted the opportunities for give and take that constitute normal living. Too many servants, too many adult contacts, too few normal outlets for the work and play instincts and too distant removal from the soil—what effect have all these had on the ability of these little fellows to take it as well as to dish it out?

As one might suppose, the biggest job the club has to face is the adjustment of some of them to the rest of the group and fitting them into the strenuous though never hectic activities of its busy afternoons. Some of them are badly spoiled, selfish, utterly unwilling to cooperate with the others. Some are exceedingly timid and shy. Many are good sports from the start, but others do not know what it means to share in a group activity.

Yet it has not proved so difficult to help these boys as might have been expected. Any one who has worked with children from any social or economic level of American life realizes that handicaps of this sort are not limited to any one stratum. Self confidence and independence are two of the hardest lessons any teacher has to teach or any boy to learn. They are developed here, as the youngsters learn to wait on themselves.

There are no grooms to saddle the horses and ponies—just an old Negro hostler, who looks after the corral, and the director and his assistants, who instruct but never do the work that each must learn to do for himself. Making a blanket roll that won't slip calls for considerable skill and precision; the boy must do it right, or his pack slips and dumps its contents on the trail. *(Continued on page 1022)*

80,000,000 meals!

By ELLEN S. WOODWARD

How WPA helps the underprivileged children of the present to grow into useful, healthy citizens of the future

"NOW THAT they are having hot school lunches, Mother won't have to give me away; the ladies are giving me dinner every day, so she thinks that she can keep me."

This was the comment of one underprivileged child shortly after the establishment of a WPA school lunch project in the public school which he attended. Still another undernourished lad declared, "We like the lunches very much; we have grown taller, and most of us are fatter . . . Thank you."

One million undernourished children have benefited by the Works Progress Administration's school lunch program. In the past year and a half, 80 million hot, well balanced meals have been served at the rate of 500,000 daily in 10,000 schools throughout the country.

This work of rehabilitating underprivileged children is supervised in all instances by competent WPA workers, who while earning money with which to clothe and feed their own families are given an opportunity for wider training to equip them to take their places in private employment when the opportunity arises. On March 31, 1937, the projects employed nearly 12,000 needy economic heads of families.

The school lunch program, like all other WPA projects, must be sponsored by tax-supported public bodies. Boards of education usually are the official sponsors of the school lunch programs. Many civic organizations and individual patrons, however, may and often do render valuable assistance by cooperating unofficially with the legitimate sponsors. The active interest of parent-teacher associations all over the country has been an important factor in the universal success with which these projects have met.

School lunch projects have aroused such community interest that in some instances, members of various civic organizations and other responsible citizens have formed advisory councils which actively support this work by contributions of food, equipment and occasionally money.

The school lunch projects were originally intended to serve only children from relief families, but experience taught that growing children need a hot mid-day meal irrespective of their financial condition. It was found also that many children from homes where there was an adequate supply of certain kinds of food were not receiving the proper kind of diet. It has become the policy in many communities therefore to serve a hot lunch to all the school children who care to partake. In many instances, parent-teacher associations have been largely responsible for making arrangements whereby those parents of children who can afford it contribute food supplies. This, however, is generally voluntary, and in no case is any distinction made in the lunchrooms between those who do and those who do not make a contribution.

Many of the children who are fed on WPA projects come from homes where milk is a luxury. In some instances, teachers have reported that nearly all their pupils who partake of the school lunch have no meal during the twenty-four hours of the day other than that furnished on the project. For many children who are required to leave home early in the morning and travel long distances after school hours to reach their homes, the WPA lunch constitutes the only hot meal of the day. In an even greater number of cases, children come to school either without breakfast or with a meager one at best.

Only those who have had occasion to witness the type of lunch that many of the children were bringing to school before the inauguration of the WPA can fully understand or appreciate the value of these projects.

Insufficient or improper food takes not only a physical toll but a mental toll as well. Children, after all, are sensitive beings. In some instances, children from underprivileged families have been known to slip away alone to eat their lunches in some secluded spot—ashamed to have the other school children witness their meager fare.

In some of the poorer communities of Georgia, for example, many of the children brought only cold bread or baked sweet potatoes. Sometimes a child's lunch consisted of

Ewing Galloway

MANY CHILDREN FROM HOMES WHERE THERE IS AN ADEQUATE SUPPLY OF CERTAIN KINDS OF FOOD DO NOT RECEIVE THE PROPER KIND OF DIET. THEREFORE CERTAIN COMMUNITIES SERVE A HOT LUNCH TO ALL SCHOOL CHILDREN WHO CARE TO PARTAKE.

a biscuit and a piece of fried fish. If any meat at all was included, it was usually fat white meat. Prior to the inauguration of the WPA school lunch projects, a cold sweet potato or a poorly cooked biscuit spread with fat constituted the usual lunch of many children in the rural communities of South Carolina.

Before the institution of the WPA projects, many children in certain sections of Colorado were reported to be bringing for lunch a piece of corn bread with molasses or a cold pancake. The common kind of meat found in the children's lunches—when there was meat—was salt pork. In many of the rural districts the lunches which were brought in winter were frozen or half frozen by noon.

Even after the establishment of the WPA project, an effort was made to have each child in certain Colorado communities bring his or her own bread from home to supplement the hot dishes. This had to be discontinued because the bread that the children brought was not fit to eat. It was dirty, dry and even moldy.

South Carolina, which feeds more than 77,000 children daily in over 2,300 public schools, has the largest WPA school lunch program of all the states, except New York State, in which New York City alone feeds a daily average of 87,230 children.

All school children who desire the hot lunch in South Carolina are permitted to partake. Sponsors and co-sponsors make contributions of everything from money to beef "on the hoof," and the parents of children who can afford to do so also contribute small amounts of food or money. The parents' weekly contribution for a child may be a box of cocoa, a can of tomatoes or a quart of milk; or if they contribute money, it is usually 10 cents—2 cents a day.

School attendance has increased, and classroom work has improved in every school in South Carolina where the school lunch project operates. Satisfactory gains in weight have been noted in previously undernourished school children. In Greenville County, for example, children who were weighed at the beginning of the project have been weighed again at the end of each five week period. The records showed

an average gain in weight of from 3 to 8 pounds per child for the first five week period.

Teachers in Decatur County, Georgia, declare that the school attendance for children who are fed on three WPA school lunch projects has increased 80 per cent as a result of the wholesome, well balanced and nourishing noonday meals which are served daily in the schools.

Through the cooperation of the Decatur County health commissioners a weight chart was made for each child, and records have been taken at regular intervals. The average increase in weight has been shown to be from two to five pounds a month. Higher marks also have been made, some children being promoted to the higher section of their classes for the first time since they entered school. Greater general alertness, better deportment and an improved attitude toward teachers and classmates are among the many gains manifested.

A school lunch project in Bryan County, Georgia, employed three WPA workers to prepare and serve hot mid-day meals to 200 children. The food was furnished by the local community through donations and was supplemented by supplies from the Surplus Commodities Division.

Henry Ford, who has displayed an active interest in the health and welfare of his neighbors in Bryan County where he has an estate, has taken over on his own payrolls the three workers formerly paid by the WPA. He also has supplied the school lunch project with seventeen dozen each of certain dishes, spoons and other tableware and has furnished tables and chairs, so that all the children may sit down together for their noonday meal.

In many Vermont towns responsible groups of people, including the parent-teacher associations and service and civic clubs, have cooperated with the WPA to provide a valuable hot lunch project and have been rewarded by watching the steady mental and physical development of the children fed.

Weight records on Vermont projects, taken at the beginning of the school lunch project and again at the close, show an average gain of from 2 to 4 pounds per child. Teachers also report an increase in energy, greater accomplishment in school work and a marked improvement in the general appearance of the pupils.

Educators, health officers and state officials in Minnesota agree that increased weight, greater concentration in the classroom and fewer absences from school are some of the immediate gains resulting to children who are being fed on the WPA school lunch projects. They state that the hot lunch is of particular value to the children of unemployed parents whose food budget has been reduced to a minimum or even below the amount required for proper growth and health protection. For many of the children in Minnesota and elsewhere, the school lunch is not only the best but sometimes the only adequate meal of the day.

To further this work of overcoming malnutrition and preventing its further progress, certain public tax-supported bodies in Minnesota have sponsored allied projects for which the WPA has supplied the labor. In some instances, milk stations provide midmorning lunches for the needy, and in several poor districts, where children are known to leave home with almost empty stomachs, milk and graham crackers are served at school before the beginning of classes.

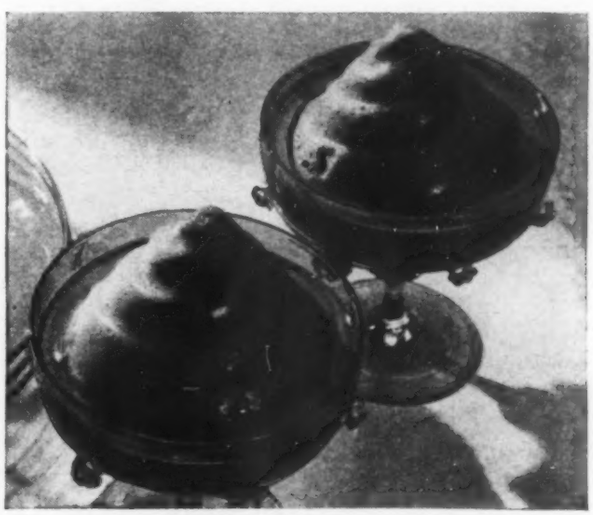
In New York City alone, one WPA project employs 2,346 persons who serve free lunches to thousands of pupils in over 1,000 schools. Health records show uniformly marked improvement in the children's physical condition, and scholastic records show a parallel upward trend. Teachers state that pupils who once exhibited sullen unresponsiveness have become alert, interested and in many cases above the average in intelligence.

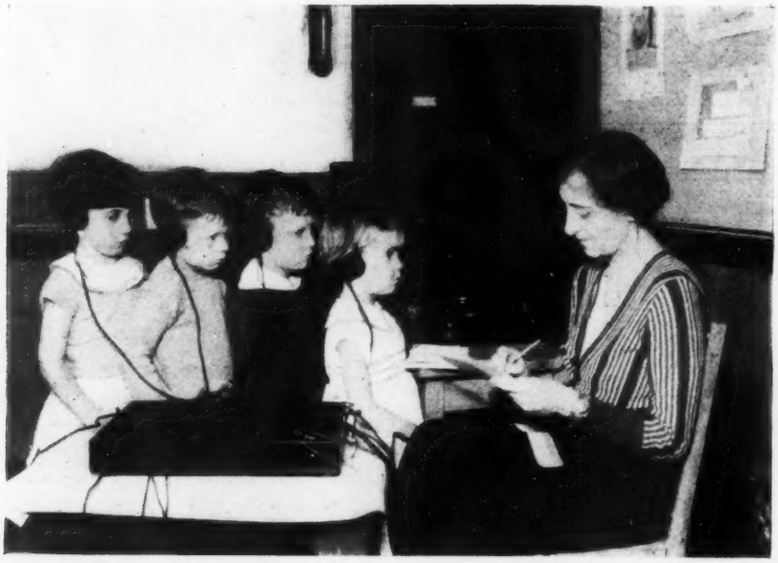
In a recent letter to the Director of the Division of Women's and Professional Projects, Dr. Louise Stanley, Chief of the Bureau of Home Economics, U. S. Department of Agriculture, expresses her appreciation of the work performed under the school lunch program:

> I have been very much impressed with what this has meant in making available to school children much-needed food. . . . The meals, where I have seen them, have been attractive, well-served, and palatable, and have contributed much in setting food standards and good food habits for the children.

Through the daily service of warm, nourishing food prepared by qualified, needy women workers, the WPA is making it possible for many underprivileged children of the present to grow into useful, healthy citizens of the future.

NOURISHING FOODS, ATTRACTIVELY SERVED, DO MUCH TO SET GOOD FOOD HABITS AND STANDARDS.





Conserve the Child's Hearing

By
MARTIN A. FURMAN

TWENTY-FIVE years ago preventive medicine was in its infancy. There was comparatively little health teaching. The least attention was given to the hard of hearing. Both doctors and laymen felt that little could be done for the child with lowered hearing and considered the problem a hopeless one.

But today the otologist, or ear specialist, has recognized that there is hope for impaired hearing. The old feeling of "deaf and done for" has been changed to "hard of hearing and hopeful."

Medicine is confronted today with the problem of discovering the causes of impaired hearing and of preventing the trouble before impairment of the ears ensues. The prevention of frequent colds in early childhood by the instruction of mothers in proper care with regard to diet, clothing, ventilation and habit regulation; the education of mothers in the care of contagious diseases in children and the dire effects which such diseases have on the ears; the stress on the importance of early treatment of ear infections when they occur; the attention paid to the relationship of diseased sinuses, tonsils and adenoids in children to the onset of poor hearing, these and other similar problems are now constantly in the minds of forward-looking physicians who are interested in improving the hearing of the community.

Today otologists are mass conscious. It is necessary to discover the hard of hearing child when the hearing is only slightly or moderately impaired, and it must be discovered in large groups if anything really beneficial can be accomplished en masse. For years, otologists were handicapped in testing large groups of children because of the lack of proper equipment. The invention of the audiometer, a mechanical device for the accurate testing of hearing, has marked a new era in group testing. The audiometer not only allows for greater accuracy and finer variations in testing hearing impairment but also gives better responses in younger and less cooperative children. The instrument also permits charting the hearing test, thus keeping a permanent record on hand for comparison with later tests.

Careful examinations by means of the audiometer have shown defective hearing in from 7 to 11 per cent of school children in some of the larger cities throughout the United States. Many school children who do not progress well in their studies, simply because they do not hear well, are labeled stupid. They become discouraged, and some develop an inferiority complex, a real tragedy in life. Many of these children have hearing defects but do not know or express their trouble to others.

It is easy to recognize severe deafness, but moderate impairment of hearing is often overlooked. Often a child who is totally deaf in one ear still denies that there is any trouble in hearing conversation at all. Deafness in one ear is often followed by deafness in the other ear. Moderate impairment of hearing may be and often is forestalled by proper management and treatment, while severe deafness responds but little to treatment. The moderately deafened child must be reached if any improvement in hearing is to be accomplished. It is most important to discover the hearing defect early.

ONLY by scientifically testing children before they begin their schooling, that is, as early as 3 years of age, and at regular yearly intervals thereafter can anything really beneficial for them or the community be accomplished. For children under 3, science has not yet devised apparatus for detecting slight deficiencies in hearing by which the tiny child can be examined. It is hoped that science will soon overcome this difficulty so that even these little ones can be aided before further defects in hearing develop, for it is during the first six years of life that the ear is most susceptible to infection.

Such routine testing of hearing has already been begun in the New York Public Schools. Through the constant efforts of the New York League for the Hard of Hearing a fund was created by the New York Board of Education and the Works Progress Administration with which a survey of the hearing of 600,000 school children was undertaken. More than 280 teachers were instructed in the use of the audiometer and in the teaching of lip reading. The program also called for a medical examination of the ears of all children showing a hearing impairment. Since last June the annual routine examination of the ears of school children has become a practice under law in New York State.

Such programs and laws in school communities should have the active support and cooperation of the parents, teachers and medical profession. These school examinations are doing much to acquaint the parents and general public with the need for early discovery of hearing impairment. When examination shows that a child has a pathologic condition of the ear the child's parent or guardian is notified of the trouble and requested to seek the advice of the family physician. The family physician usually directs the parent to an otologist. The ideal would be to have an otologist for every school, to supervise the examinations and to direct the treatment. It is not expected that the school otologist should treat every child in his care; but under the guidance of his expert experience the examination of the hearing of school children would be more accurate and the treatment would be directed to the proper channels. It is hoped that this ideal will soon be attained.

Dr. Edmund Prince Fowler, who was in charge of the medical aspects of the survey of the hearing of the New York school children, has recently expounded the following rules for the care of the hard of hearing school child:

1. Every child with a history of ear trouble, even a remote suggestion of ear trouble in the past, should be followed up carefully for years, even though the hearing is not impaired when the child is examined.

2. One should insist that advice and treatment be carried out; otherwise nothing will be accomplished by the examinations.

Courtesy, Bell Telephone Laboratories

CAREFUL EXAMINATIONS BY MEANS OF THE AUDIOMETER HAVE SHOWN DEFECTIVE HEARING IN FROM 7 TO 11 PER CENT OF SCHOOL CHILDREN IN SOME OF THE LARGER CITIES THROUGHOUT THE UNITED STATES.

3. One should insist on lip reading not only as an immediate aid to the hearing but as a partial insurance against possible future increased deafness.

4. A front seat is imperative not only for better hearing but for better lip reading.

5. Teachers should favor the hard of hearing child by clear enunciation, repetition and position.

6. A hard of hearing child should never be relegated to a special school. More normal development and adjustment will be obtained in a regular class.

7. If the maneuvers already mentioned do not adequately supplement the deficiency the hearing must then be increased by a mechanical aid. It is well to consult a specialist before buying one.

8. Special schools for the severely deafened who have not grasped lip reading sufficiently or who lack sufficient knowledge of language to carry on in the regular classes should be devised. As soon as these pupils are capable of rejoining the regular classes they should do so.

9. Medical care is important when indicated.

10. To accomplish the most for the moderately deafened child each should be cared for individually and as a distinctly individual personality.

THE group testing of hearing of the school child is a big step forward in the conservation of hearing of the community. As yet no attempt has been made to organize the group testing of the preschool child. Since children are most susceptible to ear infections in the first six years of life, parents should be educated to the fact that every child should have a proper scientific test of hearing every year from the age of 3 years up. Only after such a program of routine testing can the prevention of deafness and the conservation of hearing of the community be improved appreciably.

Some of the measures necessary to prevent loss of hearing and to aid those whose hearing has been impaired are as follows:

Recognize early signs of trouble. These include a blocked feeling in the ear; pain, itching or heat in or about the ear; head noises such as buzzing, hissing or ringing; a moist discharge from the ear canal, and requests to have words repeated. In children, watch for inattention and frequent mistakes in carrying out instructions, faulty pronunciation of common words, wearied expression before the day is half over, and lack of quick response in play.

Avoid ear trouble by obeying the following rules:

1. When the ear canal is plugged with wax or foreign objects like peas, beans or beads, do not attempt to remove the object yourself with hairpins and the like. You may produce irreparable damage. Go to a skilled physician.

2. When you have a severe cold in the head, tonsilitis, influenza, scarlet fever, measles, diphtheria or other acute infectious diseases, the ears may become infected. If this occurs, a specialist in diseases of the ear, nose and throat should be consulted immediately. He may prevent serious complications. Protect your children from unnecessary exposure to infectious diseases by proper diet, clothing and ventilation and by vaccination and immunization.

3. When you have repeated or prolonged colds, nasal obstructions and other long continued irritations of the nose and throat, such as diseased tonsils and adenoids, you may acquire chronic catarrh of the ears and impaired hearing. Avoid repeated colds by healthful living, and prevent chronic catarrh of the ears by giving immediate care to the cause of irritation in the nose and throat.

4. Learn to protect the ears and nose when swimming or diving. Don't swim in polluted waters. Don't expose yourself so long in the water that you become chilled. Learn to empty the water from your nose and ears properly after swimming. If you have trouble with your ears or nose when swimming or diving, find out from an ear, nose and throat specialist what the trouble is and how to avoid it. You may have to stop putting your head under water.

In case of ear trouble, remember:

1. Have your ears examined by an ear specialist. Do not risk your hearing by trying so-called cures! Do not give up regular treatments if the specialist believes they are necessary. It takes time to correct ear trouble.

2. Never trifle with earache. Do not use home remedies to bring relief or wait until the eardrum breaks. To do so may have dangerous results.

3. If impaired hearing cannot be cured you may still be happy and successful. Take up lip reading. Consult an ear specialist with regard to the proper hearing aid for your ears. Avoid overfatigue. Good sleeping habits and periods of rest and quiet all help to conserve the hearing which remains. Join an organization for the hard of hearing, and make use of their information, advice and services. If there is such an organization in your own town, get acquainted with the members, and share in their work and play. Since a group of hard of hearing people organized the New York League for the Hard of Hearing, about twenty-five years ago, similar leagues and clubs have been springing up all over the country. They are centers of information about all problems connected with impaired hearing, as well as centers of lip reading and social pleasures. In some cities the leagues find employment. If you desire information and there is no league in your community, write to the American Society for the Hard of Hearing, 1537 35th St., N.W., Washington, D. C.

1793 – THOMAS ADDISON – 1860

A brief biography of an acute medical investigator, written and illustrated

By ADOLPH BEILIN

THE TWO discoveries which support the fame of Thomas Addison concern pernicious anemia and suprarenal disease. He will also be remembered for his monographs dealing with diseases of the lungs, liver, kidneys and brain, and for two medical eponyms: Addison's keloid and Addison's pill.

Much of Addison's early boyhood is cloaked in obscurity. He was born in Long Benton, England, in April 1793. He studied medicine in the University of Edinburgh and was graduated by this institution in 1815. Immediately after graduation he proceeded to London, where he began the practice of his profession. In this venture he was unsuccessful, and he was enabled to maintain himself through the financial assistance of his father. Despite his lowly beginning he persevered, kept up his studies and strove for higher and greater opportunities. He was a brilliant student and soon built up a reputation as a keen observer and an accurate diagnostician.

Addison's work began to compel attention, and there followed an appointment as house surgeon to Locke Hospital. His income was now sufficiently increased to enable him to further his medical knowledge. He continued his study of syphilis, and it was his thesis on this subject that won for him the degree of Doctor of Medicine. At the Public Dispensary in London he also studied various skin diseases under Dr. Bateman. On the death of Bateman, Addison was honored by an appointment to his vacant post.

In 1819, Addison was admitted a licentiate of the College of Physicians. The following year he entered Guy's Hospital, and with this institution he remained associated throughout his lifetime. Addison's work at Guy's was so outstanding that he was given the additional job of lecturing on materia medica. Through the medium of these lectures he became distinguished as a teacher and for the example he set his students. In 1837 he was appointed full physician and lecturer in collaboration with Dr. Richard Bright.

Addison performed countless postmortem examinations. It is recorded that his study of every disease with which he came in contact was characterized by inexhaustible labors in order to seek out every detail of knowledge.

Lest some factor remain unsolved, he carried his investigations to the minutest infinity, regardless of the duration of time. Thus his fame rests not only on his important discoveries and writings but on hard work and on the practical application of his investigations to diagnosis.

Endowed with an impressive appearance and a strong, positive character, Addison also possessed the qualities of humaneness and scrupulous honesty in all his dealings. To him, accuracy of diagnosis was a high victory. He never diverted his interests. All his thoughts were concentrated on the science and art of medicine.

In 1860, at the age of 68, ill health compelled him to retire from Guy's Hospital. He died on June 29 of that year.

SPORTSMANSHIP PREFERRED

(Continued from page 1014)

Unfortunately, as every worker with problem children can testify, it is sometimes the parent who must be labored with in order to straighten out some emotional problem. The boy who told the director that he wished he had some one to love him belonged to one of the city's "best families." It was his parents, not he, who needed the director's most tactful efforts.

What the boys think of the club and what its director does for them may be guessed from a remark of one of the "old-timers" when a certain event took place. "Mother, if that baby had uv been a girl, Fritz Orr would uv made a man 'out of her." He certainly is making a man out of many a boy whose chances of becoming one were none too hopeful.

In the fall, football holds the major interest, as is natural with red-blooded American boys. But it is not the unsupervised, highly dangerous sport that football has become in some of our high schools, where immature boys are permitted to take perilous risks without adequate protection and proper safeguards. They play in full equipment, made by the leading sporting goods manufacturers to the special design of the director. The teams, carefully matched as to size and ability, elect their own captains. Special instruction is given the very awkward youngster, as nothing is more cruel and brutally frank than a group of preadolescent boys! Self assurance, combined with courtesy toward the fellow who cannot do things quite so well, is the goal.

Is Atlanta proud of its future leaders-in-the-making? Attend one of the big games between collegiate rivals at the Sanford Stadium of the University of Georgia, and you may be fortunate enough to witness an unusual sight. Between halves, while the band is playing, two miniature teams may trot out on the field, completely equipped in regulation gear and uniforms, and go through a short, snappy scrimmage, while the crowd watches intently.

Pictures of this and other activities of these youngsters, boxing, wrestling, basket-ball and all the rest of the things they do, appear in the newspapers from time to time.

It is not surprising that fathers and mothers who have had such good results with their boys should want something similar for their daughters. This year a girls' club has been organized under the leadership of three Junior League members, women who are specially trained for such work, and already its limited quota has been filled. Girls need training for leadership too; and a finer school for women citizens could hardly be devised than is here being worked out.

One other development has followed inevitably. That is the founding of a summer camp in the southern Appalachian Mountains, within 75 miles of the club grounds. Here, 3,000 feet above sea level, boys from the lower country can spend a summer in the heart of the highland wilderness; and here they resort for an occasional week-end hike or camping party during the year.

Fritz Orr today is making a contribution to the training of the leaders of tomorrow that it is difficult to estimate and impossible to appraise accurately. It is enough to say that boys drawn from outstanding families of the city, state and nation are here learning the obligations that go with their advantages. This is a training that has been sadly lacking in the early lives of many of our embryo citizens of privilege, with tragic results. These boys are becoming expert in skills that will stand them in excellent stead in whatever walks of life they chance to find themselves; and they are learning qualities that make for character in any situation.

Doctors, lawyers, judges, executives of big business, a world's champion golfer—all turn their sons over to this keen young business and society man, whose hobby it is to give the sons of such men at least as good a "break" as we think the children of the tenements are entitled to receive. The fact that such opportunities are not always available to all our boys is the tragedy of the American scene today. Those who lack them, whatever their social and economic status may be, are indeed America's underprivileged boys and girls.

The Cows That Had Tuberculosis

THE DOCTOR'S ARMCHAIR STORIES: III

By Fred O. Tonney

DUSK WAS slowly fading into night. Sonny stood, a solitary silhouette, at the gate of Dr. Smithies' quarter section farm, looking anxiously down the road.

He hadn't seen Dad for two long days! Had anything happened? Would he surely be along tonight? Sonny couldn't wait.

Finally, far down the road, as the darkness silently gathered, two lights flickered—a car! Would it be Dad? Brighter and brighter they grew. Was it—could it be Dad?

It was! The old rattling flivver turned in at the gate, coughed and stopped.

"'Lo, Dad," called Sonny, with immense relief.

"'Lo, Son. How you been?" He tinkered with the spark and stepped on the starter. The motor caught, sputtered fitfully, then roared. "Hop in, Son," he invited.

Together they rode to the garage at the back of the house. Mom opened the kitchen door wide and flooded the yard with light.

"Did you have your supper, Dad?" asked Sonny, as the old doctor backed the rickety flivver into the garage.

"Yeah, over at Uniontown, Son."

"We did too—an' maybe I can have a story now, right away. Can I, Dad?"

"Sure, Son, soon's we get set by the fire."

They trooped up the back steps.

"Dad's eaten already," called Sonny to Mom.

Mom kissed him as he entered the kitchen; then arm in arm, father and son marched into the living room, where a log fire crackled in the grate—Mom's thoughtfulness again. Dr. Smithies sat down in the big armchair, dug out his pipe, filled it methodically, tamped it down and lighted it. He puffed intently until the smoke rings began to curl about overhead. Sonny watched the process silently, then shyly sidled into his dad's lap.

"I missed you terribly, Dad. What you been doin' these last two days?"

"Considerable, Son. Been runnin' all over this county, I guess."

"What about?"

"You see, the federal inspectors have been here again, over at Opie Wilson's farm, checkin' up on the cattle."

"For what, Dad?"

"For tuberculosis, that's what! Bovine tuberculosis—that means cow tuberculosis." He puffed at his pipe. Meanwhile darkness had settled down. There was no light in the room except from the log fire, which crackled and snapped cheerfully.

Presently he continued, "Opie sold some thoroughbred stock to a fellow over in Iowa, and when the cattle were tested by the inspectors they just didn't stand up. So Opie asked me to find out about it, and that's what I've been doing these last couple of days." He paused; then added casually, "There's going to be a test of Opie's whole herd tomorrow by the government men. I hope it comes out all right."

Sonny cuddled closer. "Gee, you're swell, Dad." And presently, "There was a new girl over at school today by the name of Bella Armstrong. She—she—"

"Yes, Son?"

"Well, you see, she has a sort o' crooked neck. I mean she holds her head to one side all the time! Why does she do that, do you 'spose, Dad?"

"All the time, you say?"

"Yeah, sure, and I noticed her back is sort o' curved too." He lay back comfortably in his father's lap. "But she's a nice kid, though awfully friendly and full o' jokes, you know. I like her a lot. But what in the world is the matter with her, do you suppose, Dad?"

"Hm! Well, it might be cow tuberculosis."

"Cow tuberculosis!" Sonny couldn't understand. "You—you mean she got it from cows?"

"Most likely, Son, from what you tell me. She is probably suffering from bone tuberculosis of the spine, which nine times out of ten is from cows. It's called bovine tuberculosis!"

"Is it different from ordinary tuberculosis in us humans, I mean?" asked Sonny.

"Oh, yes," the doctor answered. "Of course this cow tuberculosis germ belongs to the same family as the human and bird types, but its effects are different in human beings. Now in cows it generally kills 'em but in human beings it mostly causes bone and gland tuberculosis in the children. It's the 'why' of the crooked

spines, stiff necks and frozen joints that cripple so many children." He paused. "I'm afraid that's what's the matter with your new friend Bella over at school." He puffed at his pipe reflectively. "Where'd she come from, Son?"

"Oh, out west somewhere."

"Well, wherever it was, they didn't look out for bovine tuberculosis the way they should, and she probably got it from the milk."

"From milk, Dad!" Sonny couldn't believe it. "Do—do you mean that milk, just ordinary milk, can give us kids cow tuberculosis?"

"Yes, Son. You see, when a cow has tuberculosis the germs are bound to get into the milk, and then the children who drink it are apt to get this special kind of tuberculosis that affects the bones and glands mostly in human beings. That makes a lot of crippled children." He paused. "There's a special school for these crippled children up in Chicago, and several clinics for them, too," he continued.

"Would you take me up there to see 'em some day, Dad?"

"Sure, Son. The very next time I go to Chicago I'll take you along."

Sonny thought for quite a while. Finally, "What kind o' crippled kids will I see up there, Dad?"

The old doctor considered for a moment. "Well, of course, there are the hunchbacks and the frozen joint cases—"

"Whatcha mean—'frozen joints,' Dad?"

"That's when a joint has been swelled up and inflamed for so long that it can't move any more. I'll show you some of them when we go to Chicago, Son."

"Gee!" exclaimed Sonny. "You—you mean they're—just kids like me—if—if I was crippled?"

"Yes, Son, only you're not crippled, thank the Lord." And after a moment, "This cow tuberculosis generally gets into the joints. There are the spinal cases and the hip cases, the knee, ankle, elbow and wrist cases. They're all about alike, just inflammations of the joints. But they last and last and *last*, until in the end they make crippled children. Thank goodness, there aren't nearly as many hereabouts as there used to be."

Sonny crawled closer. "What do the doctors do for kids with this cow tuberculosis, Dad?"

"Oh, they do the best they can, Son; but even at that, it's pretty hard on the youngsters!"

"How do you mean?"

"Well, you see, the treatment that works best is to put the joints at rest—not just ordinary rest but complete rest—in a cast or with a brace, for a long time."

"For how long?" the boy asked.

"Oh, sometimes six months, sometimes a year, sometimes a year and a half—or longer. It depends."

Sonny was astonished. "You mean all that time they can't go out or play ball with the other kids or go fishin' or anything?"

"No, Son. How could they, all trussed up in a cast or brace or sometimes an extension apparatus in bed—for months and months?"

"But isn't there anything else to do for 'em besides puttin' 'em in casts and things?" asked Sonny.

"Well, yes, there's heliotherapy, of course."

"What's that?" Sonny wanted to know.

"Putting them out in the sunshine without much on—so it can shine on the bare skin. The fellow that first worked it out was a Frenchman named Rollier up in the Swiss Alps. Then about the same time a doctor in this country named Trudeau, up at Saranac Lake in the Adirondack Mountains, did the same thing. They both found that good sunshine helped all kinds of tuberculosis in human beings but especially the bone and gland kind that cripples the children."

"But why should it, Dad? What does sunshine have to do with curing cow tuberculosis?" Sonny couldn't understand.

"Well, you see, Son, there are some health rays in good sunshine called ultraviolet rays. Of course there are lots of other rays too in sunshine. But these ultraviolet rays, present mostly in summer sunshine, really do things to us—and to animals and plants too. They build up health and so help protect us against germ diseases, including this cow tuberculosis—that *especially*, as a matter of fact."

"But how does it do that, Dad?" insisted the boy. "I don't see." He hesitated. "How does this kind o' sunshine work?"

"Well, when these ultraviolet rays shine on the bare skin they're absorbed by a substance in the skin called ergosterol. Then in some way these energy rays are converted into vitamin D, which has a lot to do with health. It's what the chemists call a catalyzer. It speeds up the normal chemical processes of the body—digestion, glandular action, reproduction and the like—and also it helps to resist disease."

"So the kids have to be out in the sun to get well—for how long, Dad?"

"Oh, months and months—sometimes years."

Sonny considered. "Why do you keep sayin' 'good sunshine' all the time, Dad? Isn't sunshine always good?"

"No, Son, I can't say it is, especially in the cities. What I mean by 'good' sunshine is sunshine with the ultraviolet light rays in it. But a lot of times, sunshine that looks bright enough hasn't any ultraviolet light in it at all."

"Why not?" asked Sonny.

"First on account of the season of the year. It's mostly present in summer sunshine and hardly at all in winter—at least up North here where we are. So we have to get it in summer mostly. But in the big cities it's a different matter again."

"How do you mean?"

"Well even in summer, and especially in the spring and fall months, the smoke of the cities cuts out most of these health rays. So it's pretty hard on the city kids that get cow tuberculosis."

"Can't something else be done for them, Dad?"

"Oh, yes. The next best substitute for good sunshine is artificial sunshine, and that's what they give these city children up at the Spaulding School to take the place of real sunshine. Of course there are other things to take the place of good sunshine too, like cod liver oil and irradiated vitamin D food products—milk, cereals and others. But I guess Old Sol is about the best there is, if you can get to him!"

"Well, anyway, it must be pretty bad, this cow tuberculosis," commented Sonny. "Wouldn't it be a lot better if we didn't get it at all?" he asked.

"You said it that time, Son. That's the only answer there is. Children shouldn't ever get it in the first place. And after a while they won't, I guess, when the health departments and the state and federal governments have finished the plan to wipe out cow tuberculosis everywhere in this country."

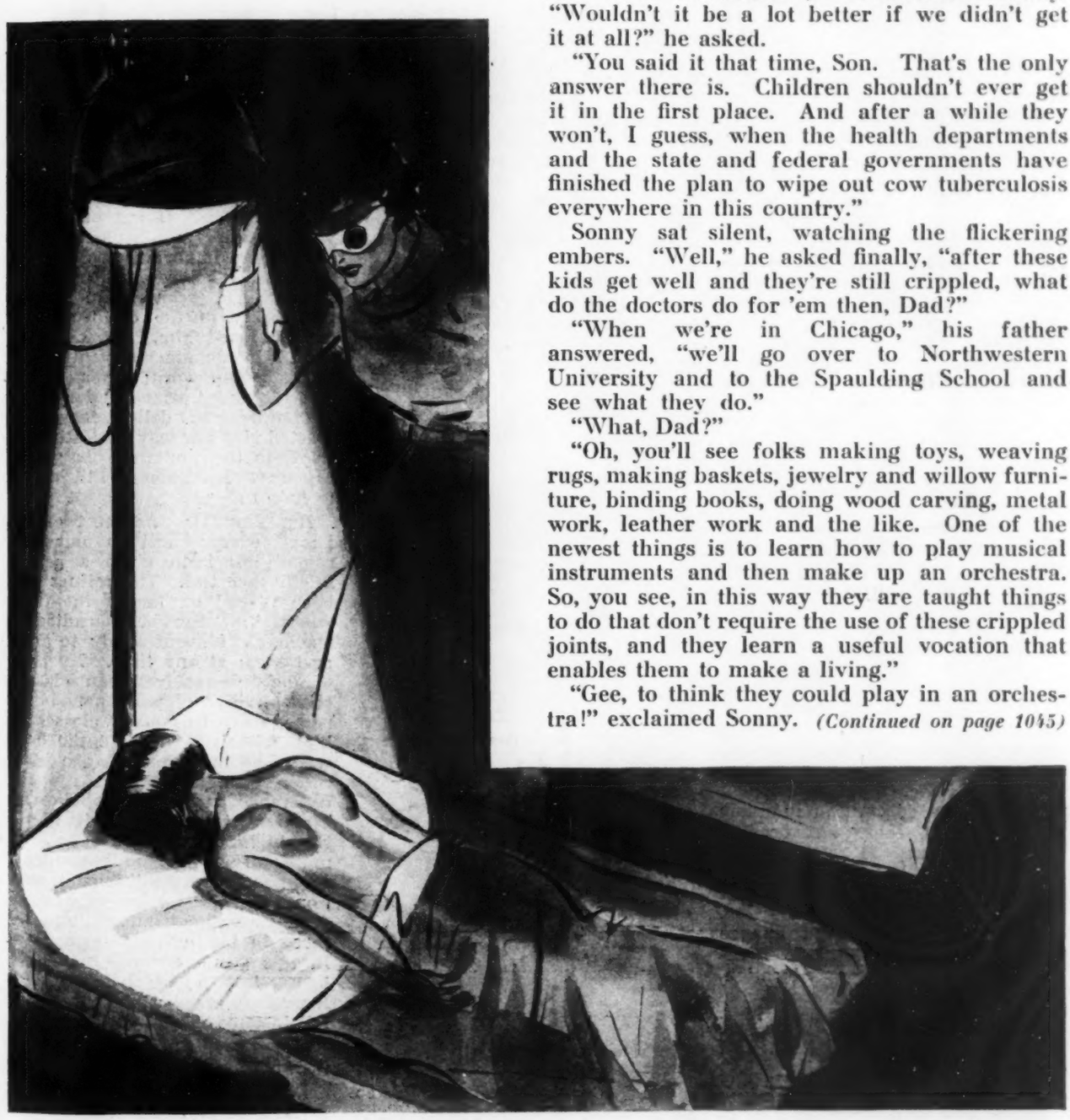
Sonny sat silent, watching the flickering embers. "Well," he asked finally, "after these kids get well and they're still crippled, what do the doctors do for 'em then, Dad?"

"When we're in Chicago," his father answered, "we'll go over to Northwestern University and to the Spaulding School and see what they do."

"What, Dad?"

"Oh, you'll see folks making toys, weaving rugs, making baskets, jewelry and willow furniture, binding books, doing wood carving, metal work, leather work and the like. One of the newest things is to learn how to play musical instruments and then make up an orchestra. So, you see, in this way they are taught things to do that don't require the use of these crippled joints, and they learn a useful vocation that enables them to make a living."

"Gee, to think they could play in an orchestra!" exclaimed Sonny. *(Continued on page 1045)*



ARTIFICIAL SUNSHINE PROVES A GOOD SUBSTITUTE WHEN THESE SICK CHILDREN CAN'T GET OUT INTO THE REAL SUNSHINE.

SCHOOL and HEALTH

Conducted by J. MACE ANDRESS, Ph.D.
67 Clyde Street Newtonville, Mass.

BUILDING THE HEALTH CURRICULUM IN THE HIGH SCHOOL: III

THE TEACHERS in the Queenstown High School are slowly gathering at their round table to continue their educational discussions centering around the health curriculum in the high school. The principal is about to open the meeting. Let us again be visitors and listen in.

MR. RICHARDS: The principal point brought out at the last round table discussion was the necessity of our making certain that boys and girls in our high schools have satisfying experiences in healthful living. There was a tacit understanding that we were all somewhat responsible in helping to make such experiences possible. Dr. Vanderhoof, our school physician, and Miss Lucia, our school nurse, gave us an insight into what they were doing so we might cooperate with them intelligently. Today we are privileged to hear from Dr. Thomas, our school psychologist.

DR. THOMAS: Although I do no formal teaching it is possible for me to influence pupils incidentally. Today at the request of our principal I want to tell you how we can cooperate in the new health program.

It is my business to help you know your pupils better so that they may be guided into happy successful living. I use the word "success" here in a broad way, indicating not merely satisfactory academic achievement but success in a general way in meeting the problems of life. Since high school teachers are specialists in their various fields, there has been a natural tendency to think of the acquisition of knowledge in particular fields as the achievement most worthwhile. As you know, there is now a decided change about this in the opinion of experts on secondary education. There is a growing belief that the development of the whole individual, the growth of personality, is of greatest significance. A boy or girl may do well in academic subjects and yet be a failure in getting along with people and making other adjustments. This newer trend in education is often referred to as mental health.

There are so many characteristics of the healthy mind that it would be impossible to give a complete picture of a wholesome personality. Dr. J. E. Wallace Wallin defines mental health as "a state of mind that enables the individual to attain his greatest amount of happiness and maximum efficiency with the minimum amount of strain or friction." I myself find that the most striking characteristic of the healthy minded person is his belief that he is worth while. Such a belief inspires faith, confidence and optimism. This belief is nourished and developed by success. Continued failure leads to pessimism and a marked disinclination to make a bold and intelligent attack on life.

MISS WOODWARD: This is a beautiful theory, but I wonder whether

it is possible or even desirable to prevent all pupil failure.

DR. THOMAS: It is impossible to prevent all failures, but children may be taught how to meet failure and profit from it. It is unfortunate that too many children in failing develop wrong attitudes, defense mechanisms, which make for strain and limited efficiency. It is my conviction that when our schools are better organized continued failure and a final sense of failure will seldom occur.

MR. RICHARDS: I quite agree with Dr. Thomas. Every pupil who leaves our school with a final sense of inadequacy stamps our school with a failure. If our pupils fail, we also fail.

The most important problem that faces us, I believe, is to find the right kind of relationship between the ability of the child and the task assigned him. It may be so easy as to encourage slovenly habits of study and work; it may be too difficult and thus engender habits of failure and delinquency. We must find some way of testing the pupil to the limits of his normal capacity. Dr. Thomas will be able to help us.

DR. THOMAS: As most of you know, every pupil in our high school has been given a general intelligence test. The ratings have been placed on file in the office, where they can be consulted by teachers. I stand ready to interpret them at any time. My study of the present freshman class is characteristic of what may be expected of freshman classes in high schools throughout the country. The mean mental age is between 14 and 15. The range of difference is almost unbelievable. The lowest mental age is 11 and the highest 21. About half the pupils are really too immature to profit from the traditional instruction. Only about one in ten will graduate without failures, and only three in ten will graduate at all. In this group according to Cole's figures in "The Psychology of Adolescence," about 59 per cent will fail in some subject sooner or later.

MISS RODGERS: This seems frightfully discouraging.

DR. THOMAS: It need not be, but I think it is a distinct challenge for us to bring about a better

articulation between capacity and requirements.

MR. RICHARD: I find these data valuable in guiding pupils in their choice of courses and their election of subjects.

MISS BROWN: I can see how this might help with dull pupils. Is it ever a help in dealing with bright pupils?

MR. RICHARDS: Yes, decidedly. Here is a case. William was barely getting through his examinations. He was mischievous and caused his teachers a good deal of trouble. One of his teachers thought he was inferior mentally. The intelligence test showed that he had an I.Q. much above the average. His work was so easy for him that it did not command his respect. He could "get by" and have fun annoying his schoolmates and teachers. He was encouraged to take more studies and was told that he was expected to do it with a high grade. As a result his mischievousness disappeared and the quality of his work improved.

MISS FOWLER: I should like to ask Dr. Thomas whether a knowledge of a pupil's I.Q. tells us all that is necessary for us to know to guide him successfully. Some persons look on intelligence tests as a kind of panacea.

DR. THOMAS: A good question. No, indeed. The intelligence test merely tells us about the capacity of the individual to learn, especially "ideational" learning. It reveals practically nothing about emotions, attitudes, physical health, special abilities, home and social background, morals, leisure activities, dominant interests and ambitions. All these play a dominant part in determining success and failure. Such information must come from other sources and must be considered in planning any pupil's future.

MR. WENDELL: Is there a correlation between mental and physical health?

DR. THOMAS: Yes, for abounding physical health is a certain guaranty of vigor, enthusiasm and keen interest in living and success. However, we can find many children with good physical health who have failed in the art of living.

DR. VANDERHOOF: The correction of physical defects often promotes wholesome attitudes. I am reminded of a girl who was in danger of a nervous collapse. She was greatly depressed by the appearance of her teeth. She was advised to go to an orthodontist. After his treatments she rapidly improved in appearance, morale and school success.

MR. RICHARDS: This has been a profitable meeting. Dr. Thomas has offered some valuable suggestions. We need all the help we can get to develop wholesome personality. Miss Phillips, our visiting teacher, will be our leader next time.

CONSERVING ENERGY FOR GROWTH

ETHEL AUSTIN MARTIN
Director Nutrition Service
National Dairy Council

In the first two articles of this series on building a nutrition program the author recommended definite methods of finding out about the actual nutritional needs of pupils. Continuing, Mrs. Martin recommends ways whereby these needs may be satisfied. Sleep and rest are selected for special consideration.

IN MY article last month I proposed that the basic subject matter of the nutrition program be built around those health and food habits most needing correction in the majority of children in the classroom. It was suggested further that information relative to the daily habits of the children be obtained by a simple health habit questionnaire. It is now assumed that these questionnaires have been answered and returned to the teacher and that she has for her consideration not only a record of each child's daily living habits but a fairly comprehensive picture of the habits of the entire group. It is now her responsibility to interpret her observations, plan her program accordingly and begin her work at what appears to be the most strategic point.

Nutrition Program Based on Needs of Group

Strategic points for starting nutrition programs will of course differ with grades in the school and with localities. Experience has shown however that certain problems are practically universal. It can be predicted with certainty, for example, that most children in a classroom are getting insufficient sleep, that a majority are having inadequate breakfasts and that many are eating insufficient amounts of the protective foods: milk, vegetables, fruit and eggs.

Let us assume for the moment that in a given classroom the main problem is one of late bedtime hours and inadequate sleep and rest. The teacher has already suspected that this situation exists, for the children are often listless and drowsy. But with proof from the questionnaires that this is true, she is now in position to plan a convincing unit of work, one which will not only induce pupils to go to bed earlier but one which will convince parents of the importance of sleep and rest as a factor in the health and nutrition of their children.

Cooperation of the parents is indispensable in such a unit, particularly in the primary grades, for the children at these early ages are powerless to increase their hours of sleep unless home conditions are such as to encourage earlier bedtime hours.

With parental cooperation as her immediate objective, therefore, the teacher sets about to marshal facts which will help attain this end. She realizes that she can impress parents with the importance of more sleep for their children if she can prove that sleep is closely related to the physical well being, the endurance, the rate of growth and even the dispositions of their children.

Relation of Sleep to Good Nutrition

In launching the sleep program the teacher will do well to remind parents first just how sleep affects the nutrition of children. This may be done in a talk before a group of parents or accomplished through home visits and informal talks with parents. They should know that continuous shortage of sleep affects the nutrition of children unfavorably in at least two ways: (1) by making additional demands on the body for energy during the extra waking hours and (2) by failing to conserve energy which should be saved during sleep. Thus every hour spent awake instead of asleep depletes energy reserves, with the result that regular loss of sleep makes severe demands on the body. Unless enough extra food is eaten to compensate for the loss, body tissues are burned as a result, with consequent failure to make adequate gains in weight.

Too long hours of exhausting games have a similar effect on children. When insufficient sleep accompanies overactivity, as it often does, irritability and nervousness are sure to follow. Nervous tension in itself further increases energy needs, while at the same time it usually diminishes the desire for food. And thus while energy losses can theoretically be made good with extra amounts of food, actually this is not often done. Hoarding of energy rather than wastful spending of it is therefore the safer course. Next month the energy value of foods will be considered. It is my purpose now to indicate how conservation of energy through a well planned program of sleep and rest, interspersed with play and work, contributes

vitally to the good nutrition and growth of children.

To understand the energy-nutrition relationship it should be recalled that energy is used by the body for three purposes: (1) to supply basal energy needs, sometimes referred to as "overhead charges," which are the involuntary activities of the body, such as contraction of muscles in breathing, beating of the heart and vital processes in every cell; (2) to support voluntary activities of the body, such as sitting, walking and running, and (3) to furnish the energy needed for growth.

During the period of growth, children store extra fuel in their bodies in the form of new tissues. For good growth, children must eat in excess of their energy needs to provide for building new tissues. The extra amount needed for this purpose is greatest during the most rapid periods of growth which occur during the second year of life and during adolescence. It is unfortunate in some respects that the human body is not like a machine which stops running when the fuel is exhausted. Actually it is this very ability of the body to use its own tissues as fuel which makes it possible for children to dissipate energy at the expense of their own growth.

A wise teacher will turn to records and experiences with her own class to bring home to parents the need for an energy-conservation program. For example, records of the physical examinations just completed will undoubtedly show that many children are unduly thin and lack satisfactory fat padding; likewise, the periodic weighings will indicate that a number of children are failing to gain regularly or meet the expected weight gain for height and age. Comparison with proposed schedules of sleep for children will show that many members of the class fall below the minimum amounts proposed. The exact amount of sleep required daily for the various ages cannot be specified with certainty. The following hours have been suggested as a conservative guide: from 6 to 7 years, eleven and one-half hours; from 8 to 9 years, eleven hours; from 10 to 11 years, ten and one-half hours; from 12 to 13 years, ten hours; remaining growth years at least nine hours.

Finally, in many cases the teacher will find ready agreement from parents that dispositions are greatly in need of improvement. With parents in a sympathetic and cooperative spirit the teaching program may then be introduced.

Teaching Unit on Sleep and Rest

A unit on sleep may be considered in two parts: (1) the actual classroom work with children and (2) the part which the school program has in such a unit. The latter may be an extremely important factor, for the school routine can be so planned as to make a successful sleep unit impossible. It is not unusual, for example, for schools to expect long rehearsals after school, many hours of home lessons, participation in evening programs and drill in athletic events. Such unreasonable demands on the children's energy must first be eliminated.

The teaching program should be gaged carefully to the particular grade level. For the lower grades a favorable attitude toward sleep can be created in children by discussing with them the fact that all young things sleep in order to help them grow. They can be taught to tell their bedtime on a large pasteboard clock with movable hands. The teacher's interest in their early bedtime together with mother's cooperation will do much to discourage movies on school nights and late hours at the radio.

In the intermediate and upper grades older children can understand that the body rests during sleep and therefore puts "money in the bank" on which to grow. Children of this age will be interested in the relationship between hours of sleep and the continuous upward trend of the weight chart. They can calculate bedtime and rising hours, which will permit adequate hours of sleep.

At the more advanced level of high school a working plan of study, play, rest and sleep will be most useful. A project called "Living on 24 Hours a Day" calls for students to record their round-the-clock activities on a dial showing their present schedule for the day and night. This device has been used effectively for several years by freshman students in one high school. After the original recording is made, there are group discussions on the importance of various phases of the day's program. Students are then ready to prepare a second dial which, for contrast, is called "Making Your 24 Hours Work for You" on which they work out an ideal program of activity and rest. This then is used as their daily living "pattern."

SURVEY OF A HEALTH EDUCATION PROGRAM

MABEL A. STANFORD
Chaffey Junior College
ONTARIO, CALIF.

Retrospection is pleasant and profitable when it spells achievement. This story of the survey of sixteen years of positive health training will be stimulating to all those who wish to make provisions for health programs in high schools and junior colleges.

IF THE proof of the pudding is in the eating, then the test of a health program which is carried on in a school system must be in the results which it accomplishes over a period of years. An examination of the results of the health program of Chaffey high school and junior college over a period of sixteen years reveals interesting adaptations in the development of a health program which has been of great benefit to the 10,000 girls who have received positive health training in its classes and clinics.

The health plan at Chaffey high school and junior college was started sixteen years ago. The health center has developed from a small room originally outfitted by contributions from the local Red Cross and civic organizations to a suite of rooms in the women's gymnasium, which includes classrooms for the classes in home care of the sick, first aid and girls' hygiene and also rest rooms and individual first aid rooms with lavatories for the girls and also for the boys. In this organization, hundreds of students are treated for first aid and examination each week.

The health program has been an effective element in stopping epidemics in schools and towns by its habit of examining students on recommendation of the instructors when the students are not feeling well. The school nurses on duty make recommendations for them to see their family physician, to go home for treatment or to go to the rest room for a period of inactivity. If necessary, transportation is provided for them. On the return of the student, the nurses again make an examination so that he will not come back too soon and thus spread

(Continued on page 1033)

To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

TO AMERICA'S SCHOOLS

YOUR HEALTH!

A NEW RADIO PROGRAM FOR SCHOOLS

THE American Medical Association and the National Broadcasting Company present each week over the Red network a program of dramatized health messages intended to furnish graphic supplementary material for health teaching in junior and senior high schools. Much of this material is also useful for elementary schools, especially in the higher grades.

The program is broadcast each Wednesday from 2 to 2:30 p. m., eastern standard time, one hour earlier central time, two hours earlier mountain time and three hours earlier Pacific time. The list of stations to which the program is available appears herewith. It should be noted that any station may or may not broadcast the program. Neither the American Medical Association nor the National Broadcasting Company has any control over local broadcasting, since this is a noncommercial program. Evidence of local interest may have influence with station managements.

The program is planned in nine groups of four broadcasts each. The briefs and lesson suggestions for Group I appeared in HYGEIA for October. Following are the remaining programs. A slight change in the order originally announced has been made for the group dealing with diet, beginning December 8. Lesson suggestions for four programs beginning November 10 are published herewith.

RED NETWORK

WEAF	New York
WNAC	Boston
WTIC	Hartford
WJAR	Providence
WTAG	Worcester
WCSH	Portland, Me.
KYW	Philadelphia
WDEL	Wilmington
WFBR	Baltimore
WRC	Washington
WGY	Schenectady
WBEN	Buffalo
WCAE	Pittsburgh
WTAM	Cleveland
WWJ	Detroit
WSAI	Cincinnati
WIRE	Indianapolis
WMAQ	Chicago
KSD	St. Louis
KSTP	Minn.-St. Paul
WHO	Des Moines
WOW	Omaha
WDAF	Kansas City
WLW	Cincinnati
WFEA	Manchester
WSAN	Allentown
WORK	York
WMBG	Richmond
WCOL	Columbus
WGL	Fort Wayne
WOOD	Grand Rapids
WBOW	Terre Haute
WGBF	Evansville
WEBC	Duluth-Super'r
KSOO	Sioux Falls
KANS	Wichita
WTAR	Norfolk
WPTF	Raleigh
WSOC	Charlotte
WFBC	Greenville
WWNC	Asheville
WIS	Columbia
WCSC	Charleston
WAVE	Louisville
WSM	Nashville
WMC	Memphis
WSB	Atlanta
WAPI	Birmingham
WJDX	Jackson
WSMB	New Orleans
WROL	KnoxviHe
WJAX	Jacksonville
WFLA-WSUN	Tampa
WIOD	Miami
KGBX	Springfield, Mo.
KVOO	Tulsa
WKY	Oklahoma City
KGNC	Amarillo
WFAA	Dallas
WBAP	Fort Worth
KTBS	Shreveport
KTHS	Hot Springs
KARK	Little Rock
KPRC	Houston
WOAI	San Antonio
KFDM	Beaumont
KRIS	Corpus Christi
KRGV	Weslaco
WTMJ	Milwaukee
WIBA	Madison
WDAY	Fargo
KFYR	Bismarck
KOA	Denver
KDYL	Salt Lake City
KPO	San Franciso
KFI	Los Angeles
KGW	Portland, Ore.
KOMO	Seattle
KHQ	Spokane
KTAR	Phoenix
KOB	Albuquerque
KFBK	Sacramento
KWG	Stockton
KMJ	Fresno
KERN	Bakersfield
KIDO	Boise
KGIR	Butte
KGHL	Billings

DATES AND TOPICS OF WEEKLY BROADCASTS
1937

PERSONAL HEALTH

October 27—Seeing and Hearing Well: hearing and vision; how to conserve these; how to recognize deviations; how to prevent loss.

November 3—Striving for Better Bodies: so-called physical defects; their recognition; what can be done about them.

HYGIENE

November 10—Playing for Fun: health values and hazards in sports and recreation, including football.

November 17—Fresh Air, Fresh Clothes and Fresh Skin: ventilation; clothing; bathing.

November 24—Rest, Relaxation, Refreshment: all work and no play, or all play and no rest—bad for health.

December 1—Tuberculosis, Foe of Youth: how bad habits of hygiene and unwise living, plus infection, favor tuberculosis.

HEALTH TEACHING HELPS BY RADIO

DIET

December 8—It Takes All Good Foods

A well rounded diet and how to get it.

December 15—Vitamins, Minerals and Common Sense

More about a balanced diet in special relation to minerals and vitamins.

December 22—Dietary Fads

Facts versus fallacies in relation to prevalent false notions about diet.

December 29—Milk from Farm to Table

The production, transportation, pasteurization and home care of milk; its place in the diet; processed milks.

1938

CONTAGIOUS DISEASES

January 5—Sneezes and Sniffles

Cause, spread, prevention of colds, pneumonia and influenza; importance of early medical care.

January 12—Scarlet Fever, Measles and Whooping Cough

Modern attitudes toward these diseases; their prevention by community cooperation.

January 19—Smallpox and Diphtheria

Unnecessary diseases; preventable by immunization of infants.

January 26—Poliomyelitis

Information about the disease; cooperation with President's Birthday Ball

PREVENTING FUTURE ILLNESS

February 2—Rheumatism and Arthritis

Known factors in the causation of arthritis and its care.

February 9—Healthy Hearts and Arteries

Known ways of protecting the heart against infection and hygienic abuse; how to live with heart disease.

February 16—Don't Fear Cancer—Fight It

Known factors in the cause, prevention and treatment of cancer.

February 23—Overcoming Diabetes

Individual efforts plus medical aid will win against diabetes.

PUBLIC HEALTH

March 2—Water, Waste and Sanitation

Importance of community control of water supplies, sewage disposal and general sanitary matters

March 9—Protecting Perishable Foods

What the community can and must do to protect fresh foods such as fish, fruits, vegetables, meats, bakery goods.

March 16—Keeping Books on Health

The meaning and the importance of vital statistics, contagious disease reporting and community health records.

March 23—Catching Disease from Animals

Rabbit fever, rabies, undulant fever and similar infections, and what can be done about them.

HEALTH EDUCATION

March 30—A Fool for a Day

Fallacies and popular beliefs that are not true and that influence behavior in a manner detrimental to health.

April 6—Living with People

Elements of mental hygiene; getting along with people; adjustment to the environment.

April 13—It May Happen to You

Accidents in the home and on the highway and ways to avoid them.

April 20—Who Chooses Your Doctor?

The characteristics of a reputable physician as distinguished from cults, quacks, fakers, faddists or exploiters.

MOTHERS AND CHILDREN

April 27—Healthier Babies

Daily routine of the healthy baby; medical supervision; feeding.

May 4—Healthier Mothers

General advice for the expectant mother; good for boys and girls to know about

May 11—Hospitals Aid Health

The place of the hospital in the health program of the individual and the community.

May 18—Runabouts, 1938 Model

The preschool child and the health and presonality problems of that age.

[NOTE.—The last four programs will be announced in the December issue.]

SUGGESTIONS FOR TEACHERS

The briefs of the second four programs, presented below, together with the reading references and suggestions for things to do in connection with the programs, are intended as helps to teachers. The program itself is not intended to supplant health teaching, but to supplement it. HYGEIA will publish in this department each month similar briefs of programs to come during the succeeding month, with reading references and suggestions for things to do. Reprints of this section are available in bundles of twenty-five at 50 cents a bundle, postpaid, cash with order, for use in schools. Single copies, 5 cents. Address Order Department, American Medical Association, Chicago. The department, "Your Health," and the radio program are under the direction of Dr. W. W. Bauer, Associate Editor of HYGEIA and Director of the Bureau of Health and Public Instruction, American Medical Association.

November 10: Playing for Fun.—This program will deal with the place of recreation in the daily life of the student. For the sake of seasonal timeliness it will emphasize football and the causes of football injuries. It will stress the necessity of good physical condition of participants and of good coaching in the best ways to play the game effectively and at the same time safely. It will put special emphasis on the fact that it is not brave but merely foolish to stay in the game when injured or tired out. Most injuries occur to those who are in poor condition, to those who are inadequately coached and to those who play when they should be on the sidelines. Use of head-gears and other protective devices will be encouraged.

The program will further develop the fact that games should be played primarily for themselves, rather than sacrificing everything to win. Importance of intramural sports in addition to interscholastic or intercollegiate will be emphasized. Attention will be given to the importance of developing a personal sport as a hobby. Such a sport should be one which can be

indulged without large teams, expensive apparatus or large amounts of spare time. It should be a sport which can be continued for pleasure into adult life. Examples are golf, handball, tennis, swimming, hiking and softball.

All sports, and especially competitive sports, must be played only by those fit to do so. This means a medical examination, not only at the beginning of the season but several times during the season, to check up on the effects of participation. Older persons who are "soft" should not be expected to play strenuous sports, except after examination and training. Boys and girls should realize that their parents have not had opportunity to keep in condition and should not expect enthusiastic sharing of the harder games.

Exercise has its place in life and is important. Play should include pleasure, since its value is something more than physical. Formal exercises are inferior to play for this reason, though they may be necessary for the development of muscle strengths and of skills. Mere big muscles are nothing to brag about.

Exercise and play must take the heart into consideration. Good condition depends on a good heart. Poor condition puts a severe strain on the heart, if strenuous exercise is attempted. There are, however, mild exercises, mainly walking, which can be used even by the person with heart disease, provided that all exercise stops short of breathlessness.

Good condition for sports requires training and discipline. Training involves not only practice for proficiency but diet, rest, relaxation and freedom from worry and strain. The discipline of training is good for the development of character and self denial.

Not the least of the hygiene of sports is good sportsmanship, playing the game for the game and not for the victory, though playing to win by every fair means. Theodore Roosevelt once advised young men, in football terms, "Don't foul, don't flinch—hit the line hard."

REFERENCES FOR THE TEACHER

Texts previously suggested.

PERSONAL HYGIENE APPLIED by Jesse F. Williams. Price, $2.25. Philadelphia: W. B. Saunders Company, 1934.

PLAY THE GAME by M. V. Charnley. Price, $1.29. New York: Viking Press, 1931.

EXERCISE AND ITS PHYSIOLOGY by A. G. Gould and J. A. Dye. Price, $3. New York: A. S. Barnes & Co., 1932.

EIGHTY-EIGHT SUCCESSFUL PLAY ACTIVITIES by the National Recreation Association, Inc. Price, 60 cents. New York: The National Recreation Association, Inc., 1933.

RECREATIVE ATHLETICS by the National Recreation Association, Inc. Price, $1. New York: A. S. Barnes & Co., 1930.

THE BOY'S BOOK OF STRENGTH by C. Ward Crampton, M.D. Price, $2. New York: McGraw-Hill Book Company, Inc., 1936.

SUGGESTED PROJECTS

Make a list of all the sports you have ever had part in, both indoors and out.

On your list, underline the ones you like best.

Describe the sport you like best, and tell why.

Describe the last (or the most serious) sports injury that you know about. Why did it happen? Was the injured player in good condition? Had he been well coached? Was he playing outside his class—age, weight and experience? Was he playing after he should have quit? Did he have the right equipment, and was he using it? Could the injury have been prevented?

How many sports do you play regularly in season; that is, once or twice a week? Name them. How many could you probably carry on if you had a job?

What do you think you have gained from your sport activities? What should you strive for in the future?

Write a paper of 300 words, advising a fellow pupil to engage in a particular sport.

Answer the following questions as honestly as you can, giving yourself ten points for each correct answer:

1. Do you boo the umpire when he decides against the home team? (No)

2. Do you give your opponent a point he has earned, even if he does not claim it? (Yes)

3. Do you concede a disputed point rather than argue it? Yes)

4. Do you "play to lose" when you are angry with the way the game has gone? (No)

5. Do you refuse to finish the game when you see you are losing? (No)

6. Do you "rub it in" when you are winning? (No)

7. Do you try to change the rules in the middle of the game? (No)

8. Do you make excuses about "bad breaks" when you lose? (No)

9. Are you glad to see the best player win even when he is on the other side? (Yes)

10. Do you keep score honestly, no matter who benefits? (Yes)

November 17: Fresh Air, Fresh Clothes and Fresh Skin.—Fresh air is necessary for good health, but it is not the whole story of health. The importance of fresh air has been overestimated. Fresh air need not be cold air. There is no virtue in being chilled in the name of health; in fact, it is dangerous. Air contains oxygen, a gas which is necessary to support life just as it is necessary to the burning of fire. It also contains other gases, including carbon dioxide, which is breathed out by the body. The bad air of closed places used to be considered bad because of its carbon dioxide, but this is not true; the percentage is not great enough to matter. Poor ventilation brings about air which contains offensive odors, and above all, air which is not in motion. Moving air, but not a draft, is necessary for good ventilation. Gentle motion of the air is most desirable.

Air can be washed through sprays of water, cooled by passing across refrigerator pipes or large amounts of ice and piped to rooms of buildings. This is called air conditioning. It helps to make people more comfortable and gives them cleaner and moister air to breathe. What influence it has on health, especially on prevention of colds, remains to be proved. There is some indication that too great a difference in temperature between indoor conditioned air and outdoor air in summer is not a good thing. In winter most heated buildings have air which is too dry, thus favoring colds by drying out the membranes of the nose and throat. The ordinary building without air conditioning can be ventilated by wise use of windows.

Windows should open from both top and bottom for ventilation purposes. A board about 10 inches high will prove helpful across the bottom of the window. The window can be opened 8 inches from the bottom, admitting fresh air through the space between the top sash and the lower but preventing direct drafts. Slanted board or glass ventilators across the bottom of the window are useful in the same way.

The proper temperature in a room is from 68 to 70 F. Older persons and sick persons may re-

quire a higher temperature, even up to 74 F. If there is much activity in the room, as low as 64 degrees may be comfortable. There should be moisture in the air. Many radiators are built with evaporating pans to supply this. Pans may be set on radiators not so equipped. The pans should be broad and shallow, not narrow and deep, to give as large a surface as possible for evaporation. A wet and dry bulb thermometer, if available, is useful for reading temperature and humidity.

Clothing should be adjusted to the necessities of the season and to the temperature which is likely to be encountered. The ordinary clothing habits of boys as compared with those of girls indicate that boys often wear too many clothes in hot weather, while girls wear too few when it is cold. Clothing should be readily adjustable to the changes which may take place in need for protection. In summer, clothing which is light, both as to weight and as to color, is most comfortable. It should be loose as well as light. Extra wraps for cool evenings should be available. In winter, persons who spend most of their time in heated rooms should not wear heavy underwear but should have plenty of heavy outer clothing for outdoors. The hands, the feet and the chest should be kept warm and well protected. For outdoor sports, for outdoor work such as driving delivery trucks and for long automobile trips heavier underwear in addition to heavy outer clothing is sensible apparel.

The skin plays an important part in regulating the heat of the body; it is not just a covering but an important organ of the body. It is full of blood vessels, and these may become larger or smaller by delicate nervous controls. When the body is hot the skin flushes. That means that it contains more blood, which is there to be cooled. When the body is cold the skin is white; not so much blood needs to be cooled. If the body is smothered in clothes in hot weather, the skin cannot work successfully in cooling the body by evaporating perspiration. In the winter, if the skin is not protected sufficiently, the body becomes excessively chilled. Colds, influenza and pneumonia may follow; frostbite may also occur.

The care of the skin is simple, though many attempts have been made to make it seem complicated. For the normal skin, especially in youth, about all that is needed is ordinary cleanliness, employing soap, water and enthusiasm. Any good soap will do. There is no special magic in any soap; if it cleanses and does not irritate, that is all that should be expected of it.

Complete body baths are necessary, and usually three times a week is considered sufficient. The daily bath is ideal but not always practical. The usual "Saturday night tub" is still in many places a ritual, and the daily bath is frowned on in those areas. The daily bath should not be considered weakening but rather an ideal aid to cleanliness. Cold baths, advocated by enthusiasts, are not always advisable; they may harm some persons. If the cold bath is followed by an unfavorable reaction, it should not be repeated. Either tub or shower can be recommended.

Cosmetics of good quality are harmless to the normal skin, with the exception of skin peels, bleaches, astringents and hair dyes. Some persons are susceptible to certain substances which may occur in some cosmetics. Of course, any cosmetic should be used within the limits of good taste. Healthy young people with bright eyes and glowing cheeks are more attractive without cosmetics than with them. Good health is necessary to an attractive skin; but good health alone will not always assure a satisfactory complexion.

A tendency to pimples is a part of the process of growing from boyhood and girlhood into manhood and womanhood. Usually the condition takes care of itself in time, but in the meantime it is embarrassing. Unscrupulous advertisers have enhanced the natural feeling of embarrassment suffered by young people with pimply skins and have greatly exaggerated its importance. The best thing for a young person with pimples to do is to see a doctor for appropriate treatment. This usually includes a diet low in sweets, pastries and fried foods and high in fruits and vegetables. Applications may be prescribed for the skin. Except for such prescribed applications, no medication should be used on the skin and especially no advertised remedy. The pimples should not be "picked" or squeezed. Soap and water are usually, but not always, prescribed liberally. The doctor may use x-rays, but no other person should be allowed to do so. If pimples leave scars, these should be left alone unless a competent physician advises otherwise. Skin peeling makes matters worse, though it is advocated by unscrupulous persons.

REFERENCES FOR TEACHERS

Texts previously suggested.

CARE OF THE SKIN AND HAIR by William Allen Pusey. Price, $1.50. New York: Appleton-Century Company, 1929.

TAKE CARE OF YOURSELF by J. W. Ephraim. Price, $2. New York: Simon & Schuster, 1937.

SCIENCE AND THE WAY TO HEALTH by J. M. Andress and M. A. Brown. Price, $1. Boston: Ginn & Co., 1929.

SUGGESTED PROJECTS

Observe the ventilation in your schoolroom. If it is a central air circulating plant, get the engineer to explain how it works and why you are not allowed to open windows. If you ventilate with windows, try the following:

1. Close all the windows and doors while the class is in session, and see how long it takes before you grow sleepy and "dopey." Now provide good movement of the air, with doors and windows still closed, by starting an electric fan. Even though the air is not changed and the temperature remains the same, do you feel better? Now open the door and a window. Do you feel still better? If it is windy, open all the windows. Do you feel better or worse? Is there too much air, and is it too cold?

2. Heat the room up to 78 degrees. How do you feel? Cool it to 68 degrees. Does it make any difference? Read and compute the humidity off the wetbulb thermometer. Is it enough? What provisions have you for evaporating water in the room?

When there is snow on the ground and the sun is shining place two squares of cloth on the snow, one white, one black. Under which does the snow melt faster? Why? Does this tell you anything about color of clothing to be worn in hot weather?

On a hot day or in a warm room put on several sweaters, and stay there for an hour. Are you comfortable? Take them off, or loosen them. Are you more comfortable? Why?

Be prepared to tell your class about some experiments in heating and ventilating.

Consult your school or family physician, if you feel troubled about the condition of your skin and hair.

November 24: Rest, Relaxation, Refreshment.—A previous program dealt with sports; this one deals with the importance of taking time for rest, relaxation and refreshment.

School boys and girls are getting their first taste of responsibility. Their duties in school prepare them for assuming the parts they will play in business and industry, earning a living. In school as well as later in life they will require a sensible balance between work, play and rest. The old proverb says that "all work and no play makes Jack a dull boy," but it is just as true that all play and no work soon takes the pleasure out of the play. Too much work and

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SCHOOL and HEALTH

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an epidemic. This care has proved effective in checking epidemics.

Besides its first aid and social health activities the health program has organized a six year course designed to train the girls in hygiene and health activities for the four years of high school and two years of junior college. The program includes a yearly health examination, corrective work, positive health education and intelligent participation in women's sports. The physical examination at the beginning of each term includes a complete health examination and a posture picture. A file of succeeding posture pictures shows the girl her progress during her school years. Gymnasium work and corrective activity are assigned on the basis of the results of the examination.

Corrective work stresses particularly correction of bad posture habits, with special attention to the feet and shoes. Corrective work for muscle training after infantile paralysis or operation is done under the care of orthopedic doctors. Class work of graded difficulty is given in the positive health education training. High school freshmen girls study general hygiene and the five elements of good health: posture, sleep and rest, exercise, cleanliness and elimination. In the first semester they study special hygiene for girls and in the second, nutrition. Baby books made as class projects in the sophomore year while the girls are studying "Care of the Infant" provide a valuable memento of the course. The book includes lecture reports, pictures and a miniature layette, which is made by the girls. The table of contents of a typical book illustrates its materials: birth registration, the sick baby, evidences of a healthy baby, growth and development of the normal child, sleep, outdoor life, sunshine, exercise and play, clothing, handling the baby, the bath, food, habit training and discipline.

Home hygiene and care of the sick are studied by the juniors for Red Cross certificates which are given on completion of the course. The girls are instructed in the preparation of record sheets for illness; the compilation of the ideal home medicine chest; demonstrations of bed making; applications of heat, cold, counterirritants and plasters; temperature taking and bathing the sick.

First aid kits are prepared by the senior girls together with a first aid notebook outline. The tin boxes are painted white with a red cross. They are air-tight, mouseproof and clean. On the top of each is a list of the articles contained: bandage materials, blunt scissors, adhesive tape, disinfectant, oil of cloves for toothache, tweezers, razor blade, potassium permanganate crystals, smelling salts, healing ointment, safety pins and first aid book. The girls also prepare poison charts which show the major poisons with their symptoms and antidotes. They also prepare charts for the treatment of loss of consciousness.

Junior college work is more advanced than that of the high school. It includes the study of health heroes, the study of the digestive organs of the body, social hygiene, the study of venereal diseases and prenatal care.

Intramural sports, which include volley ball, basketball, swimming, tennis and archery, provide outdoor activity as a part of the hygiene program. Archery is recommended for corrective work to strengthen the muscles of the back and provide posture training. Mild sport activities are provided in deck tennis, ping-pong and shuffleboard. Friendly rivalry in competition for posture perfection is provided by the annual posture contest, in which a team from each class competes for the trophy.

Social hygiene as well as personal hygiene is included in the department in the question box, a box in which members of the classes place anonymous questions for impersonal, scientific answers. Some of the typical questions are: Should a girl go to school after marriage? How can inferiority complex be cured, and how completely should it be? What do you think of public dances? Are cold serums beneficial? What are the causes and remedies for pimples? Is it all right to have your folks entertain a boy the first time you go out with him if you are bashful? Is necking harmful?

Exhibits of the class work, including baby books, kits, charts and other illustrations of the class work, are shown at the annual high school and junior college fair, which takes place in the spring each year. Besides these exhibits, demonstrations in bed making, care of the sick and care of the infant take place before large groups of people who gather at the health center. Many young mothers who have been trained in the department bring their children back for a social afternoon, during which they can show the results of their own health program.

The Chaffey girls' health program has now developed until it is a part of the community life with results reaching far and wide. The girls who have had the opportunity to be trained in it have better postures and better positive health knowledge, and they know more about social hygiene than many others who have found in their school curriculum only academic information without true application to the business of healthful living.

THE SCHOOL PHYSICIAN WITH INITIATIVE

ALLEN G. IRELAND
M.D., M.A., B.P.E.
Director of Health, Safety and Physical Education
STATE OF NEW JERSEY

There is plenty of chance for adventuring in the work of the school physician. So says Dr. Ireland in the third and last of these notable articles on the cooperation of the school physician and the classroom teacher.

THERE are many little services for which the school physician is not paid. Just as in private practice, he is generous with his gifts where help is needed and appreciated. Little services they seem to be in the matter of time, but more often than not the consequences are great and far-reaching. A word here, a suggestion there may alter the course of disaster for a child, even to the saving of life.

One outwardly gruff doctor of the old school, whom I knew, was deeply fond of children. For his regular school duties he received only a nominal fee, but to remunerate him for services rendered would have bankrupt the wealthiest of school districts. While wandering around the building one day, a favorite pastime with him, he met a little fellow with a marked defect of speech. He recognized it as stammering; but realizing his lack of information on such conditions, he did nothing but put the boy at ease with a smile and friendly pat. Thus the ice was broken, a most important preliminary in the treatment of such cases. Returning to his office, this kindly physician launched into a study of speech defects. He purchased books; he wrote to national organizations, and he consulted specialists. He wanted to be in a position to help that boy, not only in receiving an education but in getting a

boost to a place in life he could not otherwise attain.

In due time the doctor revealed his research to the boy's teacher. She was interested, and together these two conspirators worked out a plan of instruction which they in turn explained to the child's parents, since parental understanding of the problems in speech defect and of the course of treatment is essential.

Success in this case aroused the interest of other teachers. In a series of talks the doctor told them what he had learned, and this was amplified the next year through an extension course offered by a university. Stammering, lisping and other speech defects disappeared or at least decreased in this school.

The invisible factor in such cases incidentally is disturbance of the nervous system, principally the emotions. It may be a more serious handicap than the speech defect itself, and it must be considered throughout the treatment. An interpretation of this factor may well be the physician's share in meeting this most difficult problem of teaching.

Many similar stories of this physician were told. Becoming alarmed on one occasion because he found children in rain-soaked clothing seated in classrooms, he had the principal call a special meeting of teachers. Consideration of the problem resulted in the purchase of clothes lines and racks. On rainy days these were placed in the boiler room, the corridors and a spare basement room. Furthermore, it was decided that children with wet stockings, shoes and underwear should be sent home.

Another school physician found pleasure in laboratory demonstrations. By means of an old microscope which he kept at school the children were shown the different types of bacteria and fungi. He made cultures to demonstrate germ growth. He tested samples of water and milk. A favorite project with him as well as with the class was the familiar rat feeding demonstration of nutrition. When time permitted he would visit the girls' class in home nursing to relate stories and incidents from his experience, giving permanence thereby to the lessons learned in class.

Beyond his immediate active duties the school physician should be regarded as a consultant on the administrative staff. In this capacity his talents may be applied in various ways to the profit of both teachers and pupils. Programming is a case in point. Consider, for example, an energetic and ambitious, though emotional, girl in high school, who wants to take an extra course. Investigation reveals, perhaps, that she holds a class office, is a member of the dramatic club and plays in the school orchestra. This type of problem is serious and not uncommon. Sometimes it is complicated by driving parents or by an excellent record set by an older brother or sister. Other factors may be involved, such as athletic ambitions, editorship of the school paper, the necessity for earning money outside of school or poor conditions for studying at home. Many pupils spend a great deal of time in travel between home and

school, which means a hurried scanty breakfast and loss of recreation time after school.

Add social activities to the foregoing picture and we realize that student life can be full to overflowing, so much so that health is truly endangered under the strain. Too frequently this aspect of school life is overlooked, particularly under the highly competitive circumstances of life today. While thinking that we serve the student by abetting his ambitions, we may be actually hurting his chances. Nothing that threatens the health foundation of life can be justified. Instead, our first thoughts and efforts should be toward adding strength and permanency.

The student heart presents a problem to physical education teachers. When are athletic contests, swimming and hiking too strenuous? What is the condition of each participant? No simple examination will suffice here. The true facts must be known, and only the physician is qualified to find them. This is a cooperative service which should be speeded up until every high school has made adequate provisions for a thorough heart examination of every student athlete. In my opinion the cost of such service is a justifiable charge on parents.

A contribution which teachers can make is the reporting of observations made in the classroom, particularly at the end of the first two weeks of school. On a form for this purpose, the teacher should make notations on signs of defects and peculiarities of the pupils. During the medical examination this record would be interpreted to the physician as each pupil is examined. The possibilities of what an observant teacher might see are numerous. A few illustrations are persistent scratching, frequent need to go to the toilet, coughing, breathlessness, unusual flush or pallor, blinking, facial movements and twitchings, frequent sties, tendency to tire easily and so on.

This recommendation is in line with the greater responsibility for pupil health supervision being placed on the teacher, and it anticipates the teacher whose preparation in teachers' training colleges will increasingly fit her for such responsibility. The first attempts at operating this plan will be discouraging if not fruitless; but if continued, it will in time be a prominent factor in effecting cooperation between teachers and the health staff. With encouragement and help the teacher will become observant and then conscious of the health needs of her pupils. With this broader vision, teaching that is really guidance toward an all round development of all the powers will be easier and more productive.

Applied mental hygiene offers a host of opportunities for cooperation. The physician on the one hand interprets, while the teacher applies the suggestions in the classroom. A similar relationship exists in the case of children exhibiting manifestations of nervous and emotional disturbances. The cause, signs and significance of such conditions should be known to the teacher. She should also be prepared for epilepsy, which, although comparatively rare, creates havoc when encountered unexpectedly in the classroom.

Skin diseases constitute a familiar problem. Sometimes, spreading like fire, they affect nearly the entire school population. The important thing in this connection is prevention; so it is essential that the teacher understand how such diseases are transmitted. Secondary infection as a result of scratching or uncleanliness is always a danger. Again, the teacher's knowledge is the best safeguard.

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NURSING in the HOME (Continued from page 1006)

displayed in just this ability to anticipate needs: having fresh water and a drinking tube close at hand; continual watchfulness of room temperature; arrangement of light; keeping personal accessories close at hand as the patient needs or wants them, such as books, writing paper or nail file, and supplying the many other little comforts that mean so much to the patient.

A shortsighted devotion is shown when the attendant allows herself to become worn out so that she is not able to give her best. The patient's welfare is not safeguarded when the attendant's strength is depleted, nor can a wholesome, cheerful attitude be maintained under these conditions. The care of the patient should be delegated to some one else for a part of each day. It is surprising that more use is not made of hourly nursing services available in almost all cities through the nurses' registry. This service provides a trained, graduate nurse to come in by the hour for a nominal fee, to help with the most difficult part of the care of the patient: treatments, bath, morning care and so forth.

On the attendant falls the responsibility for being the point of contact with the outside world. Suddenly a normal human being with interests reaching out in many directions—home and community interests, vocational, cultural and recreational pursuits—finds the avenues of expression shut off by four walls, the limits of the sickroom. The attendant becomes, then, the door to these four walls; how much or how little of the outside world is to be admitted depends on her judgment. How often one sees the strength and energy of the patient, which should be conserved for the major business of getting well, sacrificed on the altar of well meaning but unwise friends. Why should the sick be subjected to lengthy calls that would be wearing to the well person? The criterion for guests should be: "Is the call going to be helpful or harmful?" Having company has its value: new points of view, relief from monotony, creation of an interest outside of one's self and enjoyment of one's friends. If we could choose admissions, all would be well; unfortunately, however, all must be admitted or rejected. It can be a hard and fast rule that no one outside the family shall stay in the sickroom more than five or ten minutes. Values get strangely mixed when the caller's good will is put ahead of the patient's welfare, interest in which is professedly the purpose of the call.

The attendant must be tactful enough to retain the good will of the caller and still protect the patient. Meet the guest at the door and explain the time limit. When the time is up, rise and say in your best drawing room manner, "I'm sorry to curtail this pleasant conversation, but we dare not overtax the patient's strength." If this is done graciously, you need have no fear of creating ill will in any whose friendship counts. In "persistent" cases I have taken the chairs out or at least left very uncomfortable ones in.

The attendant should steer conversation, keep it away from the morbid, make it interesting and stimulating. She should play the part of hostess, taking the responsibility for the conversation on herself and leaving the patient to be the interested spectator or participant, as he wishes.

"How much to tell the patient" in cases in which the prognosis is poor should be settled in council with family and doctor. Once the course is decided, all should abide by the decision and be consistent in answers given the patient. I favor telling the same story to the outside world that is told to the patient; this eliminates chance remarks, head shaking or wise looks, which so often upset the patient. Take care that there is no whispering, no secret conference. Conferences between the doctor and attendant are necessary both before and after the doctor sees the patient. If these conferences are always held in another room, well out of hearing, as a routine part of the day's procedure, no suspicion will be aroused when things are not going well.

Finally, emotional balance on the part of the attendant is essential because her own load must never be felt by the patient. A well balanced person is one who, having accepted his trouble and adjusted the load, uses the experience as an entering wedge to human understanding. Such a person is "free from himself," has a source of power within himself which ministers to the sick soul. To be an ideal attendant, you should be just this rock of strength on which the patient can throw his troubles, knowing they will be understood, not treated lightly nor yet too seriously. A troubled mind and a sick body play havoc with each other. If you can carry the emotional burden of the patient for the period of his illness, or at least help him adjust the load, you have solved half the battle. Always remember that a sick person is not a normal person. Great depths of heroism are often shown; more likely, the frailty of human flesh is manifest. Help the patient carry his burdens, but never tell a soul of the revelations made.

Don't mistake a foolish, Pollyanna attitude of "All's well with the world" for a kindly, understanding spirit of helpfulness. A forced optimism is almost as bad as too much sympathy. Patience, kindliness, sincerity and understanding are all important ingredients of that indefinable quality that characterizes a good attendant or nurse.

New Books on Health

BABY EPICURE

By Elena Gildersleeve. Cloth. Price, $1.75. Pp. 141. New York: E. P. Dutton & Co., Inc., 1937.

THIS cookbook is addressed to mothers, nurses and dietitians of hospitals and nursery schools. It includes eleven sections, covering soups, fish, eggs, meats, sauces and other foods. The book will prove more helpful to the discriminating dietitian than to the untrained mother. In her book, Mrs. Gildersleeve attempts to help the reader introduce greater variety into menus by giving several different recipes for the preparation of the same kind of foodstuff. On liver she presents nine recipes. Many of these are original or selected from the specialties of various nations.

Not only are the directions clearly written, but Mrs. Gildersleeve makes a frank comment on each recipe as she compares it with the following one. The recipes are classified as to suitability for the very young (1 to 2 years), for children from 2 to 5 years and for the whole family. Exception undoubtedly will be taken to her classification of suitability as many doctors or nutritionists would not advise the amount of seasoning for the young which her recipes indicate.

However, trained as she has been by world-renowned chefs in the preparation of dishes that represent the height of culinary art, it is not surprising that Mrs. Gildersleeve thinks of the baby and small child as an epicure whose palate must be tempted with delicacies. While variety and palatability are also recommended and urged by nutritionists, they would hardly agree on the premise that the word "epicure" implies.

Mrs. Gildersleeve apparently takes no cognizance of the fact that children are expected to find palatable and enjoyable foods prepared simply so as to retain their natural flavors and that the proper technic or psychology used in presenting new foods to children is the all important factor in obtaining a wholesome acceptance of them.

HERMIEN D. NUSBAUM.

TUMBLEWEED TRAIL

By Kate Rennie Archer. Paper. Pp. 64. San Francisco: Canterbury Press, 1936.

THIS pocket book of verse, written by one of HYGEIA's contributors, reflects California in its changing phases. As poetic pen pictures these brief poems are graphically and sensitively presented and mirror a variety of moods.

LEOLA J. HARRIS.

SCHOOL HEALTH PROBLEMS

By L. B. Chenoweth and T. K. Selkirk. Price, $3. Pp. 387. Illustrated. New York: F. S. Crofts & Co., 1937.

THIS BOOK is an especially clear, concise and satisfactory statement of school health problems. It recognizes that health service in the schools has or should have education for its primary objective rather than service. It does not attempt to substitute the school physician or the school for the family physician or the home but visualizes the school and its medical service as a help and a supplement to the home. It is pleasantly written, well organized, extensively documented and provided with an excellent glossary and index. Adequate attention is given to accidents as a factor in the health of the school child. It is well illustrated and has numerous useful tables and graphs. There is a good outline of health administration. For the school administrator, the school nurse and the health officer this should be a work of considerable usefulness.

W. W. BAUER, M.D.

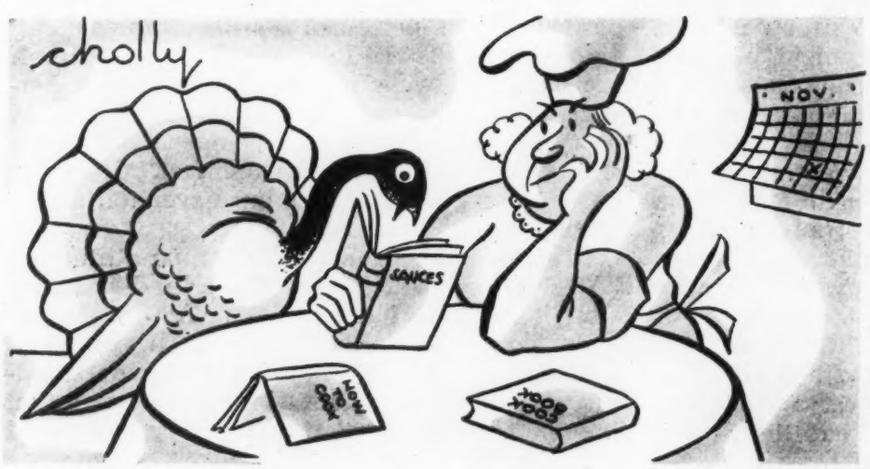
THE ELEMENTARY SCHOOL TEACHER'S TREATMENT OF CLASSROOM BEHAVIOR PROBLEMS

By Nellie M. Campbell, Ph.D. Cloth. Price, $1.60. Pp. 71. New York: Teachers College, Columbia University, 1935.

THIS is the story of a careful investigation to find out how a selected group of elementary school teachers in southern New Jersey treat the classroom behavior problems that they consider objectionable to the group and of sufficient importance to report. The investigation was also concerned with the differences in the practices of teachers rated superior and the practices of those rated mediocre in classroom control and also with the evaluation of the various treatments by the teachers themselves and by experts.

One of the significant observations of this study was the place of punishment and reward in dealing with behavior problems. Teachers usually met problem situations with punishment. There was little evidence to show that such treatment was designed to accomplish anything more than to remove the symptoms. Fewer punishments and more rewards and other treatments are reported for teachers highly successful in classroom control. The experts express little confidence in the success of punishment. The author suggests that all teachers increase the use of rewards.

J. MACE ANDRESS.



EUGENICAL STERILIZATION

A REORIENTATION OF THE PROBLEM. By the Committee of the American Neurological Association for the Investigation of Eugenical Sterilization: Abraham Myerson, M.D., James B. Ayer, M.D., Tracy J. Putnam, M.D., Clyde E. Keeler, Sc.D., and Leo Alexander, M.D. Cloth. Price, $3. Pp. 211. New York: The Macmillan Company, 1936.

IN THIS exhaustive study the purpose of the committee has been to "evaluate in a critical manner both the facts and the theories which constitute the subject-matter of the inheritance of the mental diseases, feeblemindedness, epilepsy, and crime." Their study led them to a survey of the principal literature of the world on this subject; a searching inquiry into the composition and background of some of the groups which have taken sides for or against a program of sterilization; a critical examination of the various statutes now in force in different states in this country and of the laws of foreign countries; a scholarly, scientific analysis of the mass of material under consideration and an impartial evaluation of the ultimate worth of eugenical sterilization as a factor in social control.

Having concluded that most of the legislation which has been enacted so far appears to be based "more upon a desire to elevate the human race than upon proven facts," the committee's efforts have been bent toward an impartial presentation of all pertinent facts. From a definition of genetics and its relation to eugenics they proceed to studies on the inheritance of mental disease; the chronic progressive neurologic diseases; sterilization in its relation to crime; studies on twins, and a discussion of genius and eugenics. The book concludes with the well formulated recommendations of the committee and a voluminous section of references.

L. J. H.

ADVENTURES IN RECREATION

By Weaver Weddell Pangburn. Price, 72 cents. Pp. 138. Illustrated. New York: A. S. Barnes & Co., 1936.

HERE is a most inviting book for use as collateral reading or as a textbook in junior and senior high school courses in physical education, social science, civics and allied subjects. As Dr. John Finley says in the foreword it is an adventure in itself and a challenge. It tells not only what recreation is, its value to the individual and the community but also what one has a right to expect of the community and how the citizen may enrich his own life through recreation. In the light of our present social and economic trends the wise use of leisure must be regarded as one of our great educational aims. Through a readable text containing many suggested activities and projects the author makes possible an intelligent and practical study of one of our most valuable community and personal assets.

J. M. A.

[NOTE.—Books reviewed or mentioned on this page, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through HYGEIA or the American Medical Association.]

INSTRUCTION IN HYGIENE IN INSTITUTIONS OF HIGHER EDUCATION

By James Frederick Rogers, M.D. Pp. 47. Washington, D. C.: United States Department of the Interior, Office of Education, Bulletin No. 7, 1936.

AS ONE reads this report of an investigation of the teaching of hygiene in our higher institutions of learning, one is tempted to repeat that famous question of Spencer, "What knowledge is of most worth?" Have our proud institutions of learning been "sleeping at the switch"? Over a period of a century, Dr. Rogers finds that hygiene has made little or no advance as far as the number of hours of instruction required. Colleges for women do not seem to be as much concerned with health as they were a hundred years ago. In practically every one of our higher institutions of learning, hygiene is a tail-end subject. Except in a few cases, hygiene is not required for more than a few hours; and if it is elective, few students choose it. In our junior colleges, where tradition would not be expected to throttle progress, only 35 per cent report the offering of a course in hygiene, and in only 13 per cent is it a required subject for all students. Not only is the college instruction in hygiene generally lacking, but when offered it is usually unsatisfactory. Reports also tend to show that candidates at entrance have had little or no instruction in this field. The Nineteenth Annual Report of the University of Illinois Health Service indicates that of the 2,220 applicants for admission at that university, only 7 per cent had attended a course in hygiene in the high school.

One curious and quite unexpected bit of information comes from this investigation. The college administrators who have done most for the teaching of health in their institutions have themselves suffered from ill health. If one were to deal in pure logic it would seem to be necessary to secure men and women who have become conscious of the value of health, because of their lack of it, to shape educational policies, if hygiene is to escape complete extinction in the college curriculum.

J. M. A.

ON YOUR GUARD! THE PREVENTION AND TREATMENT OF SEX DISEASES

By Carl Warren, B.A., B.S., M.S.J. Price, $1. Pp. 160. New York: Emerson Books, Inc., 1937.

PEOPLE have long sought concrete advice on the prevention of venereal disease. Usually when an announcement was made that a new book "fearlessly discussed" or "plainly told all," the fearlessness and plain telling were found on the jacket and very little between the covers. This book does not belong to such a group. We have at last a tactful, well written yet simple discussion of the venereal diseases, with concrete, specific advice toward prevention. The various prophylactics are adequately discussed and evaluated. The entire book is easily readable and may well serve as the answer to the harassed parents of grown up children. These young adults will rarely go to their parents for this information, and the doctor is usually consulted too late. This is truly a book which arouses enthusiasm and can be recommended.

PAUL A. TESCHNER, M.D.

EVERYDAY FIRST AID

By Walter Frank Cobb, M.D. Revised. Cloth. Price, $1.50. Pp. 269. Illustrations. New York: D. Appleton-Century Company, 1937.

IF THE test of education is to meet life situations effectively there would seem to be sufficient reason for expecting all graduates of our public schools to be able to render first aid in all common emergencies. It is estimated that accidents of one sort or another account for 100,000 deaths each year. About 400,000 people are permanently disabled, and approximately 10 million suffer some temporary disability. Such facts should challenge our educational systems.

To satisfy this challenge, Dr. Cobb has written an unusual book. Unlike most books on first aid it is the kind that would attract youth. Each chapter begins with a newspaper account of an accident. This sets the stage for the amateur first aider. Then there follows a description of what was done in the emergency and the reasons why. The book is written in a simple and direct style, and in its twenty-five chapters is considered almost every type of emergency which may occur. This is a book which should go into every school library, and it is also to be recommended for the home.

J. M. A.

QUESTIONS and ANSWERS

Speech

To the Editor:—Can a 16 year old child who has been deaf from birth be taught to speak?

M. L., New York.

Answer.—Any deaf child who is not too mentally retarded and who has no injury or paralysis of his speech organs can be taught to speak. Not only can children who are deaf be taught to speak practically as well as a hearing person, but they can be taught to read lips, so that they can understand what is said to them almost as well as though they could hear. It is, of course, best to place the deaf child in a school at the age of 3 or 4 years, but a child 16 years of age can be taught to speak.

The schools for the deaf in the United States lead the world in their excellence, and the child may be placed in a reputable school for the deaf with the assurance that he will receive careful, adequate, conscientious and competent care and training.

Alexander Melville Bell, who is interested in the deaf because his parents were deaf, founded the Volta Bureau in Washington, D. C., which disseminates free information on the deaf and the hard of hearing. The inquirer may write to the director of the Volta Bureau, Washington, D. C., and also to the American Society for the Hard of Hearing, 1537 35th Street, N.W., Washington, D. C., as well as to her local New York League for the Hard of Hearing, 480 Lexington Ave., New York City.

Contact Glasses

To the Editor:—Recently I heard of a lens which is placed beneath the eyelids and which is supposed to restore the eyesight to a greater degree than the present glasses used. Will you please give me detailed information about this lens?

N. C. S., Wisconsin.

Answer.—Contact glasses, so called, are not suitable for general application. Under certain circumstances in which spectacles would be out of the question and contact glasses can be used for a limited time only, their use may be justifiable. For example, when an actor or actress is playing a part in which glasses would be out of place and yet in which aid to vision is absolutely essential, the use of contact glasses during the time of actual appearance might be justified. Otherwise, ordinary glasses are much to be preferred.

When contact glasses are necessary an oculist will advise them and will also help to put the patient in touch with sources whence they can be procured.

The disadvantages of contact glasses are that they are uncomfortable, they cannot be worn long and there is danger of injury if they are broken.

They are set and kept under the eyelids. There are no advantages to contact glasses except that they are inconspicuous.

They are procurable from any reputable optical goods manufacturer but only through a physician's orders.

Sneezing

To the Editor:—In our high school the other day some one brought up the question, "What makes a person sneeze after coming out of a dark building into the sun?" If there is any reason why one is affected by the sun in such a manner, would you please enlighten us on this subject?

M. A., New York.

Answer.—The reaction referred to has never been studied in terms of definite nervous mechanisms. The following statements refer only to the possibilities.

Most people do not sneeze when entering a sunlit place after being in a dark building. Therefore the phenomenon is not a matter of universal experience. Those who report this experience are usually convinced that the causative agent is the sunlight. If they are correct in their assumption, several explanations are possible. The sneezing may be a reflex act produced by the action of light on the retina of the eye. There is a possibility, however, that the retinal stimulation may produce a secretion of tears. Tears are conveyed by a duct from the eye to the back part of the nasal passages, and arriving there they may produce a sneeze by local irritation. These are possibilities. There is no experimental evidence which indicates whether one or the other is correct.

When one considers how many different things may be encountered on emerging from a building on a sunny day, it becomes apparent that something other than light may be acting to provoke a sneeze. The change in temperature may be the causative agent, or possibly the dust or pollen present in the outdoor air may produce the effect.

Foot Powder

To the Editor:—We hear a great deal about relief for sore feet. A powder was furnished soldiers during the World War which I imagine was a soap powder preparation which could be made up by the pound at home at a trifling cost. What can you tell me about such a remedy? Is it useful?

G. B., Michigan.

Answer.—If the foot powder referred to is made from soap it is an excellent means of treating blisters on the sole of the foot. However, any moist soap can be used for this purpose.

For the relief of sore feet it would be best to consult some one who knows something about feet. Most sore feet are the result of foot strain, and no powder will relieve that. Quite often disturbance in circulation causes sore feet. For instance, people suffering from Buerger's disease or diabetes are apt to have sore feet. It is therefore of extreme importance that such patients consult a doctor because neglect or bad advice may lead to gangrene of the toes, the feet and even the legs. There are many other reasons for sore feet, and it is foolhardy to suppose that any single powder or drug will relieve all the disease conditions that may occur in a foot.

(Continued on page 1052)

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

TO AMERICA'S SCHOOLS—YOUR HEALTH

(Continued from page 1032)

play and too little rest are bad for the health.

When the body tires, it demands rest. For a certain time it can be forced beyond the point of being tired; but if it is forced too far, it gives up. If it is constantly kept in a condition of being tired, it may break down. The body requires sleep. Some persons seem to require more sleep than others. Most persons require about an average amount. This varies with age. In babies it is about twenty hours a day at first. This grows less and less until at the age of 5 years they do well on twelve hours a night and no nap; later, ten hours, then eight. Elderly persons often do well on six hours of sleep or less. Thomas Edison is said to have needed only four, but this is not a good example for every one to follow. One genius does not make a safe rule for average normal persons to follow. Boys and girls of 15 should have about nine hours of sleep a night; from 9: 30 to 6: 30 or from 10: 00 to 7: 00 is about right. When a night's sleep is shortened the loss should be made up the next night or by a nap the afternoon before. There should not be more than two shortened night's sleep in one week, and most weeks there should not be more than one. This gives a reasonable allowance for movies, parties and similar affairs.

Sleep is the best form of rest, but there are other forms. Every day there should be moments when there is nothing pressing to do. The program should not be overloaded, so that there is constant hurry and scurry. Lessons are the first responsibility. It is possible to get more out of the day if the time is planned than if everything is done in a hit-or-miss fashion. Study habits should be regular. Regular time should be allowed for play and relaxation. Not all students can accomplish the same amount of work and still have time for play and rest. Crowding up the schedule with too much work is a bad idea, even if other students seem able to do so. Outside activities should be planned wisely. A student who is merely a bookworm misses much of the fun and much valuable experience which may be gained from playing in the band or orchestra, being on the staff of the school magazine or on the debating team or belonging to the drama society. But the student who tries to do all these things may easily come to grief. Choose enough but not too many of such broadening outside activities. The same applies to accomplishments for which training is taken outside school. Tap dancing may be just the thing for a strong vigorous girl who learns easily, and exactly the wrong thing for her pal. Musical instrument lessons, singing, painting or drawing outside school hours, or other lessons requiring much practice and time may rob the student of time needed for relaxation and rest. Teachers and the family doctor should give advice about how much work a child can do and still remain healthy.

The same general idea applies to amusements. No student should give up all fun. Movies, dances, parties, hikes, picnics and such activities are all wholesome and desirable, if they are not overdone. But no boy or girl can afford to carry a heavy load of studies, take piano lessons and spend hours practicing, go to a dance and two or three movies a week, spend the week-end touring with the family, lose sleep all around and expect to remain healthy, efficient or attractive. Sallow boys and hollow-eyed girls often need to have some of their activities trimmed and more time devoted to sleep. This is not easy to accomplish, because life is growing more complicated all the time and most of us hate to miss anything. But it is better to miss some of it than to miss it all or to watch the parade go by from a sick-bed.

REFERENCES FOR TEACHERS

Texts previously suggested.

LEISURE AND RECREATION by Martin H. and Esther S. Neumeyer. Price, $3. New York: A. S. Barnes & Co., 1936.

TIME TO LIVE by Gove Hambidge. Price, $1.50. New York: McGraw-Hill Book Company, 1933.

SELECTED RECREATIONAL SPORTS FOR GIRLS AND WOMEN by Julia H. Post and Mabel J. Shirley. Price, $2. New York: A. S. Barnes & Co., 1933.

SUGGESTED PROJECTS

Have each boy and girl keep a record for a month:

1. How many nights sleep of: 9 hours or more; 8 hours; 7 hours; 6 hours or less.

2. How many evening movies attended, out after 9: 30?

3. How many dances attended, out after 9: 30?

4. How many parties attended, out after 9: 30?

5. Average hours of sleep a night? How many nights below average? How many hours made up by longer sleep next night? How many hours made up by daytime naps before late hours?

6. How many activities outside school? How many hours a week each? How many hours all told? (This includes work such as chores, after-school jobs and home duties.)

7. How many hours a week playing just for fun, not counting gym classes or competitive games?

8. How many hours just reading, talking or visiting, and relaxing? (Study reading is not included here, but reading for fun.)

9. How many mornings did you get up tired?

10. Try to make improvements in your schedule, and try the new schedule out for a month.

December 1: Tuberculosis, Foe of Youth.—Among the most serious of the diseases that threaten the health of boys and girls in their teens is tuberculosis. It is a disease which is closely bound up with some of the things we have been talking about in these broadcasts and outlines: diet, rest, relaxation, sleep and infections in the tonsils and adenoids. All these things impair the general health and so favor the development of tuberculosis. That is one reason for putting the subject at this date, and another is that Thanksgiving marks the opening of the annual sale of penny tuberculosis Christmas seals, of which the proceeds are devoted to fighting tuberculosis.

The program will show that tuberculosis is an infectious disease which is passed from person to person in families. This fact has caused it to be regarded as hereditary, which it is not. Tuberculosis is passed from person to person by transfer of the germ which causes the disease. This germ has been seen and studied; it was first seen by Robert Koch, a German physician, in 1882. It resists unfavorable conditions outside the human body more successfully than do many other germs, but it is most readily passed from person to person, as in kissing among members of a family. It may also be spread by milk from tuberculous cattle and by tuberculous meat. Both the latter means are of much less importance than formerly, owing to tuberculin testing of cattle with removal of tuberculous cattle from milking herds and pasteurization of milk.

Tuberculous infection is usually acquired in childhood. Formerly almost every person got this infection, but most of them overcame it. Now the story is different. There is so much less tuberculosis than there was formerly that fewer young children get the infection. This first or childhood infection is better called the primary infection, because it may be delayed beyond childhood, especially in adults who live far away from other people in remote regions. Almost everybody recovers from this primary infection. Recovery takes place by surrounding the germs, which usually settle in structures in the chest known as glands, with scar tissue and lime, or calcium. Apparently

that is the end of the primary infection, but it leaves a trace in the blood. That trace is detected by means of what is known as the tuberculin test; the most modern form is called the Mantoux test, and the older forms are called von Pirquet and Morro, for the men who devised the test. The principle of all the tests is the same. It is to observe the reaction of the body when brought in contact with minute amounts of a substance from the bodies of killed tubercle germs; this substance is known as tuberculin, and the test is therefore called the tuberculin test. Persons who have had the primary infection give what is called a positive test; those who have not had it give a negative test. A positive test is not proof that the person suffers from actual tuberculosis, merely that the germs have at one time invaded the body. In most instances this first or primary invasion ends in recovery.

In the teen years, when there is so much temptation to study, work or play too hard, the sneaky tuberculosis germ, which has lain hidden all these years, tries to break out. That is why all teen age boys and girls are advised to have a tuberculin test, if they have not had one in the grade schools. Even though the test is positive, there may be no cause for alarm. The next thing to do is have an x-ray examination of the lungs and a good medical examination. This will prove whether the test merely indicates the old primary condition, healed, safe and sound, or whether there is really some evidence of disease. If disease is shown, there is usually still plenty of time to get busy and cure it. Tuberculosis, found and treated early, is far from hopeless; with modern methods of treatment, recovery is to be expected when treatment is begun promptly and carried through faithfully.

Tuberculosis usually affects the lungs but may also affect the intestines, the bones and joints and the covering of the brain as well as the glands in the neck. Tuberculosis of the bones, joints and glands is seldom seen now since tuberculin testing of herds and pasteurization of milk have grown almost universal. Until the use of the tuberculin test in man was developed, warning signs of tuberculosis used to be emphasized; namely, easy fatigue, colds that hung on, cough that would not go away, digestive upsets and loss of weight. These signs are still worth noting when they occur, but we no longer have to wait for them. The tuberculin test and the x-rays give us the jump on the disease and allow us to apply the principle which underlies the cure: Early discovery, early recovery.

Modern treatment of tuberculosis is based on a principle which is not new but is especially important in connection with this disease—rest. Rest was formerly given to the lung by putting the patient to bed and keeping him quiet so that he did not need to breathe so often or so deeply and by teaching him to control and suppress the cough. Today, we can add the more modern application of rest by splinting the lung so it cannot work at all until it recovers. This is done in three principal ways, the first of which is accomplished by filling the affected side of the chest with air, collapsing the diseased lung and letting it rest and heal and then gradually allowing it to inflate again. The other two methods are based on the same principle; only the application is different. One way is to paralyze the diaphragm through a nerve operation, the other is to take out ribs and collapse the lung in that way. The last method is permanent and is applied only in more severe cases. In modern sanatoriums, collapse is not a last resort when all else has failed but is used as a means of speeding up the cure. The tuberculous patient can frequently do part-time work even though one lung is collapsed. Of course the doctor must decide this.

All these facts would be as useless as a last year's newspaper, if nobody knew about them. In 1908 a group of doctors and other public spirited citizens organized themselves into a society which grew into what is now the National Tuberculosis Association, with headquarters in New York and branches in every state and many cities and counties. The purpose of this organization, literally, is to tell the world the good news about tuberculosis: that it is not hereditary but that "every case comes from another"; that "early discovery means early recovery," and that it is essential to find out in each case "from whom did he get it, to whom has he given it" and to persuade individuals who may not feel well that "it may not be tuberculosis, but let your doctor decide," and last, to "fight tuberculosis with modern weapons." (Editor's note: Phrases in quotes are slogans of the N. T. A. Early Diagnosis Campaign.) The whole movement is built on pennies, pennies gathered through the sale of the well known Christmas seals.

REFERENCES FOR TEACHERS

Texts previously suggested.

REST AND OTHER THINGS by Allen K. Krause. Price, $1.50. Baltimore: Williams & Wilkins, 1923.

RULES FOR RECOVERY FROM PULMONARY TUBERCULOSIS by Lawrason Brown. Price, $1.75. Philadelphia: Lea & Febiger, 1934.

HEALTH IN HIGH SCHOOLS by The National Tuberculosis Association. New York: 50 W. 50th Street, 1930.

1000 QUESTIONS AND ANSWERS ON TUBERCULOSIS. Edited by Fred H. Heise. Price, 75 cents. National Tuberculosis Association, 1935.

Free literature available from local or state tuberculosis associations and the National Tuberculosis Association.

SCIENTIFIC APPROACH. Tuberculosis Problem. Teaching Kit for Secondary Schools. New York: National Tuberculosis Association, 1937.

EDWARD LIVINGSTON TRUDEAU: An Autobiography. Price, $1. New York: Doubleday, Doran & Co., Inc., 1928.

SUGGESTED PROJECTS

Ask each member of the class to write on a ballot, without adding his name, whether he has had a tuberculin test, whether it was positive or negative, whether it was followed by an x-ray examination and whether or not tuberculous disease was discovered. Make a statistical study from these facts. At the end of the year, after there has been a chance for students to act on this lesson, repeat, and compare.

Through a committee get all the facts you can about the local or state tuberculosis association. Write them up as an English project.

On the basis of facts in this lesson make a number of posters interpreting the slogans of the National Tuberculosis Association.

Visit the county tuberculosis sanatorium, if there is one, and learn all about treatment of patients there. If your county has no sanatorium, study the tuberculosis situation in your county with the help of a local physician or of the health officer.

1. How many persons died in your county last year of tuberculosis? (Include those residents of your community who died in hospitals elsewhere.)

2. How many persons with tuberculosis are on record with your health department?

3. How many persons were sent from your county for tuberculosis treatment in hospitals elsewhere? How many days did they spend in hospital?

4. How many patients who ought to be having treatment and cannot get admission to a sanatorium are known to your health department or tuberculosis society?

On the basis of the foregoing do you consider that your county ought to provide a tuberculosis sanatorium? If so, why has it not been done?

Sell Christmas seals, either direct by offering the seals themselves, by helping with the handling of the sale by mail or by calling on your friends and urging them to buy the seals which have been sent them by mail.

Be prepared to tell your class about the life of Trudeau and other men and women who fought a winning battle against tuberculosis.

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"Tummy-ache" or APPENDICITIS?

Whenever an abdominal pain persists . . .

1. Do not give a laxative, solid food, or medicine of any kind.
2. Keep the patient quiet, in bed.
3. Call a doctor.

TODAY appendicitis is an important cause of death among children and adolescents. Home treatment often contributes to this loss of valuable human life, for appendicitis may be a simple illness if medical aid is secured in time.

Acute inflammation of the appendix is almost always accompanied by persistent pain and tenderness in the abdomen. Contrary to common belief, the pain rarely begins in the lower right side, although after some hours it usually settles there. It may be accompanied by fever and nausea. Of course, not all "tummy-aches" are caused by appendicitis, but anyone who has a severe, persistent abdominal pain needs the prompt attention of a physician.

All too often an overanxious parent mistakenly gives a laxative. In cases of acute appendicitis any kind of laxative is dangerous, because it increases intestinal activity and may induce peritonitis, the dreaded and sometimes fatal complication. Even if the pain suddenly subsides, no one but a doctor can tell whether or not an operation is necessary.

During his diagnosis, the doctor often finds it necessary to make blood counts and to observe the patient's temperature over a period of time. He may say that the attack can be relieved without operating, or he may order an operation immediately.

Delay in calling a doctor is dangerous. When an appendix operation is promptly performed by a skilled surgeon, it is generally successful. Authorities agree that if everyone observed the three simple rules which appear in the box above, many of the sixteen to eighteen thousand deaths from appendicitis which occur in the United States each year could be avoided.

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RIDING to HEALTH

(Continued from page 986)

he choose to trot. As a result she was always being scolded for passing another rider without first calling a warning. She was unfailingly contrite and would explain, "You see I didn't know we were going to trot."

Miss Hamilton couldn't remember not to cluck to her horse. Over 50, she carried her years gaily, not a sign of her profession did she reveal until she admonished her horse. This she did frequently, always addressing it as though it were a well loved young pupil. If unruly she would cluck her disapproval and say sternly, "Get back into line, young fellow. Crowding will not get you to the head of the line." She would hearten a shying horse with a soothing "Tsk, tsk, don't let a little piece of paper frighten you. That's baby stuff." Miss Hamilton was the only one of us who rode with any dash, and in spite of her disconcerting habit of clucking we all admired her and secretly envied her courage.

Miss Halsey, a prominent member of a Little Theatre group, affected an Ann Harding coiffure and was always stopping suddenly to attach her bun more firmly.

Mrs. Taylor, fat and unabashedly 40, was a nature enthusiast and in her excitement over this bird or that wild flower would flourish her whip—to the alarm of the horses, the consternation of the rest of us and the grave disapproval of the instructor.

Like Miss Brooks I was loath to irritate my horse. Consequently I could never bring myself to be quite firm enough with him when he stopped to browse a bit. In short we learned that riders as well as horses must have manners. On the whole the learning process was a pleasant one, for as we rode we visited and talked of clothes, books, the spring foliage and the rising prices of foodstuff. Enjoying each other we forgot our horses and relaxed. Of course, this ride proved the instructor knew his business, and I continued for many Wednesdays, having a grand time but learning much withal.

Although the class lessons helped, I was still haunted by the fear of a runaway. I bragged about riding a different horse each lesson because I didn't intend to be a one horse rider. I was going to be a real horsewoman. I enjoyed mystifying my nonriding friends by my glib use of the jargon used in horsey circles. Nevertheless, after all was said and done, the high

spot of the ride was still the moment I dismounted safe and sound. The fact of actually returning all in one piece seemed to have an intoxicating effect on me which increased as I put distance between the barn and my equestrian self. This cheery complacency would last until I was again "up," when it would leave me facing the appalling fact that here I was on a huge animal whose strength was prodigious, whose temper was doubtful and whose nerves like mine were unaccountable. I would eye the ground fearfully and wonder about its hardness.

One day when we were on our way back from an especially tranquil ride it happened. I was riding Beauty, a school horse, old, quiet, smooth gaited and of a friendly turn of mind. But even Beauty's nerves are not impervious. So when a small boy emerged from behind a tree, yelling as only banshees and small boys can yell, she was thoroughly startled and, not waiting on the order of her going, departed in haste from that haunted spot.

Willy-nilly, I went too, clinging desperately to the saddle. At length the fact that I was actually still in the saddle and apparently going to stay there found a crack in the icy lump that was my consciousness and seeping into it had a thawing effect. My mind began to function, and I realized that, thanks to the smoothness of Beauty's run, I was still up but doing nothing about stopping the excited old lady. The advice, "Talk to your horse, and give and take on the reins," rose to mind unbidden. Putting into my words all the courage I could manage I quaveringly assured Beauty that all was well; I would protect her. As I talked my voice gathered conviction, which had its effect on Beauty. Gradually she slackened her pace and dropped from a gallop to a canter to a trot; and finally—oh, blessed relief—her ears came forward, and she slowed to a walk.

Still murmuring words of comfort I turned her about and trotted her back to the group. I had survived a runaway! In fact as we plodded homeward, all Beauty's fire having departed, two interesting thoughts occurred to me. I had enjoyed Beauty's attempt at youthful impetuosity, and the experience had taught me the meaning of "hands." Hands are the medium through which horse and rider understand each other. Difficult to define, they are essential for true horsemanship. Without them one

(Continued on page 1078)

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SCHOOL and HEALTH

(Continued from page 1034)

Finally, much could be written about the physician's rôle in applied sanitation, especially in rural schools where flies and mosquitoes may be more than mere annoyances. It is believed that under medical leadership, boys and girls would acquire valuable experience in public health procedures, if they planned and executed the eradication of fly and mosquito breeding places and the extermination of rats and mice.

The opportunities for cooperative school health work are many. Indeed, it may be said in truth that the school health program will be but a vision until teachers and the health specialists learn to work together.

ALL IN THE DAY'S WORK

MARY B. RAPPAPORT
Health Teaching Supervisor
Onondaga Health Association
SYRACUSE, N. Y.

Teaching is fun when the causes of failure are found and corrected. This is what happened to a first grade pupil.

JUST as I was plunging into my work one Saturday morning, I heard a knock at the door. There stood Miss Thomas with a troubled expression on her face.

In a few minutes the reason was apparent. She was bothered about one of her little first graders, who was floundering in his school work. She realized that it was necessary to find the cause but was baffled how to do so. She had tried every device in reading that she could think of, without success. The child's mother had been consulted but had given little help. Miss Thomas didn't want the boy to feel that he was a failure, especially as he had been in the same grade in another school last year.

We checked his medical record to find out whether there was any physical cause. Eyes, ears, throat—all were recorded as normal.

Then we checked his habits. He was often late to school, which Miss Thomas learned was due to late hours, occurring whenever his parents wanted to go to a movie or a party. He brought his lunch, although he lived just a short distance from school. He rarely played outside unless urged. His monthly weight record showed little gain.

The mother was again approached, and the problem was

(Continued on page 1048)

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THE COWS THAT HAD TUBERCULOSIS

(Continued from page 1025)

"Oh, yes, it's being done right now by the New York State Health Department. The crippled youngsters pick their own instruments, according to their particular kind of trouble, and the institution hires a teacher. After a while there's a good orchestra, which can make money, just like other orchestras —only it's made up of these crippled children."

"Gee, Dad! That's swell!" said Sonny, snuggling closer.

"Then there are the swollen gland cases too, especially in the neck; sometimes they're swollen almost to a level with the jaw."

"Is that from cow tuberculosis too, Dad?"

"Yes, Son. It generally is." He reflected. "We used to call it scrofula in the old days. I remember I found it on about every other dairy farm I went to when I was a young fellow just starting to practice." He paused. "And sometimes they got terrible abscesses—cold abscesses, they called them—that had to be operated on again and again, if they once got opened up. But you don't see this scrofula much now."

"Why don't you, Dad?" queried Sonny.

"Well, I think it's chiefly because of pasteurization of the milk."

"What's pasteurization?" asked the boy.

"Oh, it just amounts to heating the milk hot enough and long enough to kill the disease germs."

Sonny thought hard. "Then places like Uniontown and Stateville, where the milk is pasteurized, don't have this cow tuberculosis in the kids?"

"No, hardly at all, Son. That's a fact. And it's partly because of pasteurization of milk all over the country." He paused. "But still—"

"What else, Dad?" asked Sonny. "Is there some other reason?"

"Well, yes, I guess there is. It's because we're finally getting after this cow tuberculosis itself in the dairy herds. There's a nation-wide program, started back about 1917 in this country to wipe it out."

Sonny considered. "Does it work, Dad?" he asked.

"Well, I wasn't so sure about that myself, Son, until I went up to Chicago last spring to a meeting of the Illinois Bacteriological Society. But then I was pretty well convinced. There was a paper read by one of the government men from the Department of Agriculture telling about what's being done to

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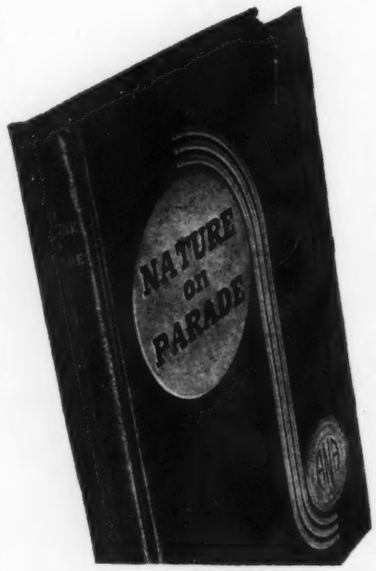

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stop this cow tuberculosis and also giving some figures on how it's reduced bone and gland tuberculosis in children."

"You mean, like Bella Armstrong, Dad?"

"Yes, Son." He paused. "I went up afterward and talked to the government doctor, and he gave me the figures. When I looked them over on the train coming back, it gave me a lot to think about."

"What'd he say at the meeting, Dad?" asked Sonny.

"Well, first he told us about how bovine tuberculosis first got into this country, 'way back fifty or seventy-five years ago. It was first brought in by shipments of thoroughbred cattle from Europe and other places into New England—expensive breeds that give a lot more milk than ordinary cows do."

Sonny was getting more and more interested. "Did they cost a lot o' money, Dad?"

"Oh, yes. Sometimes as much as two or three hundred dollars a head."

"But still they had this cow tuberculosis?"

"Yes. The price doesn't make any difference to the tubercle germs. They just go from cow to cow, or person to person, regardless. They don't care a thing about money, Son."

"Then it was these fine cows that brought the cow tuberculosis germs into this country and spread 'em all over?" concluded Sonny, astonished.

"That's exactly what happened." He paused reflectively. "The disease began mostly in the northern states, because that's where the fine imported stock first came in. The southern states weren't pestered with it much, because they only had American bred cattle. The farmers down there were too poor to buy fancy imported cows."

"Looks like they were lucky," opined Sonny.

Dr. Smithies chuckled.

Then, after a moment, "But couldn't they tell the cows that were sick, Dad?"

"There's something queer about that, Son. A lot of these cows with tuberculosis don't look sick at all, but still, all the time, more or less, they pass the germs into their milk."

"Then how did folks find out about it—this cow tuberculosis, I mean—after it got in the country?"

"Well, first the government inspection of cattle at the stockyards showed it up—in Chicago, Omaha, Kansas City, Cincinnati—wherever cattle are shipped to make beef."

"How can they tell?" asked Sonny.

"Oh, it shows up in the carcass of a cow when it's inspected," replied the doctor. "It shows up in the lungs, liver, kidneys and glands; or if it's very bad, it's just all over everywhere. Often these carcasses had to be condemned for making beef and sent over to the tanks to make fertilizer, because they were so badly diseased. That was a big loss to the farmer. But after all," he continued, "that was the main way we found out how bad this cow tuberculosis *was* in the country."

Sonny thought it over. "But, Dad, you said the doctor at the meeting gave you some figures. What figures?"

"Oh, yes, Son, that was what finally convinced me we've got to do something about it right here in this county. Let's see, he had the figures arranged in two periods—first, from 1900 to 1917, before the work on cattle began; and then from 1918 to 1934, after it was under way. Also he had two different kinds of human tuberculosis listed by years: lung tuberculosis in the first column and the other kinds in the second column. Wait a minute now, I think I've got that table right here." He fished about in his pockets. "Yep, here it is, Son."

"Let's see it," demanded Sonny.

"Why, Son, you couldn't make head or tail of it. I'll have to explain it to you."

"What's it say, Dad?" Then as he caught sight of the table, "Oo! Columns an' columns o' figures! What do they mean?"

"Well, this column," pointing as he talked, "shows the people that died of lung tuberculosis every year in this country—from 1900 to 1917. See, right here? In 1900 it shows that 180 persons out of every hundred thousand in the United States died of lung tuberculosis. And by 1916," pointing again, "the rate had dropped to 119.9. This was because of the work by the health departments and the tuberculosis sanatoriums that had been built up all over the country."

"Gee!" exclaimed Sonny, who was good at arithmetic in school. "that's a lot! Why, let's see—180 less 120," he calculated, "that makes 60 people out of every hundred thousand that didn't die from lung tuberculosis! How many people are there in this country, Dad?"

"Oh, about 120 million."

Sonny figured again on a magazine lying on the table. After a moment, "Why, look, Dad. There were 72,000 folks that didn't die of lung tuberculosis in 1916—less than in 1900! See?"

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"Sonny, you're smart in arithmetic! But wait a minute. Look at this other column."

"What's it about?" asked the boy.

"It says how many people in the country died from the other kinds of tuberculosis, besides lung tuberculosis."

"What kinds?" Sonny wanted to know.

"Well, mostly bone and gland tuberculosis but also a few other kinds like intestinal tuberculosis and skin tuberculosis. Most of them are due to this bovine tuberculosis we've been talking about." He paused. "Look at this—21 deaths per hundred thousand in 1900 and 22 deaths in 1916."

"More!" exclaimed Sonny.

"Oh no, about the same, roughly, I'd say. But anyway certainly it's no better, and it's quite different from the drop in lung tuberculosis, which was about—let's see!" he stopped to calculate. "Something like a third, I guess."

"But why didn't the cow tuberculosis column drop a third too, Dad, like the lung tuberculosis column did?"

"Well, Son, it looks as though it was just because nothing had been done up to that time to stop cow tuberculosis—such as was being done to stop lung tuberculosis in human beings; that is, up to 1917, when the government finally took up this cow tuberculosis business in earnest."

Sonny considered. "What'd they do about it after that?"

"Well, 1917 was the time when the federal government and states first began to test the cattle for tuberculosis and send all the diseased animals to the stockyards for slaughter." He paused. "And by 1934 the figures were certainly different!"

"How do you mean different, Dad?"

"Well, just take a look at this. After 1917, cow tuberculosis in human beings dropped just as fast or faster than the lung tuberculosis did." He scrutinized the table closely. "Yes, that's right. Lung tuberculosis in human beings dropped from 119 in 1916 to 49 in 1934—that's a little less than half. But the other kinds of tuberculosis in human beings dropped from 22 in 1916 to 5 in 1934—that's, let's see now, that's more than three-fourths!"

"Then it looks like this work by the inspectors really did something to keep us kids from getting cow tuberculosis! Is that right, Dad?"

"Yes, I guess that's right, according to the figures here."

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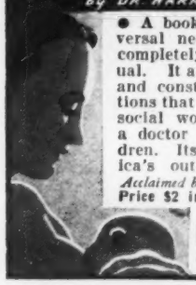

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Sonny paused reflectively. "I s'pose Bella got her stiff neck from cow tuberculosis?"

"That's the way children generally get it. But of course the human kind of germs sometimes do it too, only not so often."

Sonny thought it all over. "How do they test the cows for tuberculosis, Dad? Is it hard to do?"

"Oh, no—at least not nowadays. But," reminiscently, "I remember when it used to be, though." He puffed at his pipe, while the dying embers flickered.

"How, Dad?"

"Well, it's quite a story." He leaned back in the old armchair, while the smoke rings circled overhead. "You see, Son, in the old days, what we did was to put some tuberculin in the cow's eye. But—" he hesitated.

"What's tuberculin?" asked Sonny.

"An extract of the tubercle germs. Then the next day we'd look to see if it got red. A red eye was a 'positive,' and if it wasn't red it was 'negative' at that time." He puffed futilely at his pipe, which had gone cold. "The trouble was," he continued, "the test didn't stand up." He proceeded to refill his pipe again, very carefully, then struck a match on his shoe and lighted it.

Thus they sat for a while in the old armchair before the fire, now only a bed of coals. A chill was settling over the room.

"What'd you do then?" asked Sonny.

"Well, the next test that came along after that was the subcutaneous test, in which the tuberculin was injected under the skin of the cow, and her temperature was taken, before and after."

"To see if she'd got a fever? Is that it?" asked the boy.

"Yes, that's right, Son. It was reliable all right, but it was a mighty long drawn-out test. You had to take the cow's temperature three times beforehand and then twice more after the injection." He paused. "It seemed that this way just wasn't practical for testing so many cattle, as they had to do. It took too much time. So after a while another way was figured out, called the intradermal test."

"How's it done, Dad?" asked Sonny.

"It's very simple," responded the doctor. "You just make an injection of two drops of the tuberculin at the base of the cow's tail. Then, after seventy-two hours you look for a lump there. A lump means that the cow has tuberculosis. If there's no lump, then the cow is probably O.K."

Sonny yawned. Then, diffidently: "Whatcha doin' tomorrow over at Opie Armstrong's farm?"

"Checking up along with the government inspectors."

"To see if he's got cow tuberculosis there?"

"Yes, that's right, Son."

"Could—could I go along with you, Dad, in the morning?"

"Well, yes, I guess so, if you want to get up that early. I'll be leaving here at 5 o'clock."

Sonny was getting very drowsy. "Wake me, Dad," he murmured, "I want to go along." And he turned his face to his father's broad chest, listening to its comforting heart beat.

"Sure, Son. It's a date," agreed the doctor.

In a moment the boy was asleep.

RIDING to HEALTH

(Continued from page 1043)

may perch on a horse's back but never will one become a rider.

I am still a beginner. I have yet to trot with perfect form, to canter so perfectly balanced that a leaf between me and the saddle remains in position. Riding a strange horse still fills me with uncertainty, and yet with each lost stirrup successfully recovered, with each little mishap surmounted I grow more confident, more willing to try something harder. Best of all I am no longer headachy and bone weary. Dark brown auras and jeremiads are no longer my constant companions. I can boast that I can and do skip rope. I've climbed a mountain. I ride a horse!

SCHOOL and HEALTH

(Continued from page 1044)

presented to her. Miss Thomas asked her for suggestions. The mother said she had heard that it was necessary for children to go to bed at a regular time, but she hadn't really thought it mattered. Since she was willing to cooperate, a new daily program was started. Regular meals, sleep and play soon helped overcome the boy's apathy.

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USES OF X-RAYS IN SCIENCES AND ARTS

(Continued from page 1010)

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(Continued on page 1051)

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MILK, THE VICTIM OF SUPERSTITION

Many persons who openly scoff at those who conform to the dictates of common superstitious beliefs have some queer ideas themselves on the subject of milk, according to the *Journal of Home Economics.* For instance, they often believe that when milk is drunk at the same time fruit is eaten the combination becomes harmful and will cause great digestive disturbances. The idea was apparently based on the fact that milk is curdled by the acid in these fruits. Today most people have been informed that milk must be curdled anyway by the acid juices of the stomach before it can be digested, and so these fruit juices actually aid digestion rather than retard it.

Another superstition of more recent origin is the one about sipping milk slowly, perhaps on the theory that smaller and consequently more digestible curds would thus form in the stomach. However, clinical research has shown that just the opposite is true. Slowly sipped milk actually forms larger curds which take a long time to digest.

Probably the superstition most commonly encountered is the belief that milk is fattening; actually it is beneficial to stout persons as well as to thin persons. This is not a question of simple misapprehension of the facts by the consumer but a rather common misunderstanding of how milk is to be used. First of all, milk is not merely a beverage to be used in replacing other beverages. It is a food, and in the diet of persons who tend to be stout it should be used as a food to replace other foods rather than as a beverage. If its food value is ignored, then people tend to drink it in addition to their regular diet, thus causing an excessive amount of calories to be stored away as fat. If used to replace its equivalent in calories for each meal, it tends to keep the user well and fit without causing stoutness. Persons who are inclined to be extremely stout may find it advisable to drink skim milk in preference to whole milk.

Other fallacious superstitions encountered are that milk was not intended by nature to be used as food after one's teeth are in; that it may cause skin eruptions, regurgitation and heartburn in healthy persons, and that it is constipating since it does not provide any roughage for clearing the alimentary tract. For normal individuals, milk should be used as part of a balanced diet containing foods which do possess roughage.

ACCEPTED FOODS

This department is a useful guide in the selection of foods of quality, advertised with truthful claims. All products in this section as well as any others advertised elsewhere in HYGEIA stand accepted by the Council on Foods of the American Medical Association, and are entitled to bear its "Seal of Acceptance." The foods listed here are but a portion of those accepted by the Council. If you desire information regarding any other food product, you are invited to write to HYGEIA.

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USES OF X-RAYS IN SCIENCES AND ARTS

(Continued from page 1049)

the particular cheeses in which they were imbedded were found, thus saving the rest of the shipment from destruction.

One of the most striking uses of the rays is in the prevention and detection of fraud and crime. Customs officials can rapidly examine baggage for jewelry or other dutiable articles. Glass jewels can be distinguished from the genuine. Under scrutiny with the x-rays supposedly antique furniture has proved to be decidedly modern. Certain paintings attributed to old masters have been shown to be recent and spurious. This distinction is possible because the early pigments were metallic and hence opaque to the rays; whereas the modern pigments are of organic origin and are transradiant. On the other hand, by this method of distinction valuable old paintings hidden under later depictions on the same canvas have been discovered. Discarded stoves concealed in cotton bales to give additional weight and thus defraud the buyer have been revealed. The criminologist frequently has occasion to use the rays in examining articles connected with crime in order to trace the origin of the objects and thus obtain clews to the criminal. At certain prisons, visitors are required to pass through a booth containing fluoroscopic apparatus that will reveal pistols, saws, files or any instrument of escape concealed on the person of the visitor.

In summary, x-rays have greatly expanded knowledge of human anatomy, physiology and pathology, of biology, physics and chemistry. They have facilitated industry, have aided in the detection and prevention of crime and have prolonged man's life expectancy by promoting his health, safety and general welfare. It is as though a sixth sense had been added to the faculties of man. Surely no discovery in recent times has surpassed the x-rays in actual and potential benefits.

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QUESTIONS and ANSWERS (Continued from page 1038)

Child Feeding Difficulties

To the Editor:—My son, age 3½, has not chewed a single morsel of food. As a baby, when he refused toast or zwiebach, we thought it was only a peculiarity of his. When he was teething he would not allow us to put a teething ring, spoon or anything similar near his mouth. A little more than a year ago we discovered that for some reason he seemed to be unable to chew. His teeth, because they have not been used, are in poor condition. He is thrown almost into convulsions when I attempt to clean them.

Mrs. G. H. C., North Carolina.

Answer.—There are many children at 3 years of age who will not chew their food. This disturbance is common in babies up to 2 years of age but rather infrequent at the age of the inquirer's child.

Two suggestions may be given: 1. The child may be put for a week or two on a diet with nothing in it but foods that have to be chewed. This will undoubtedly be a difficult procedure because he will get hungry and will have to be forced by his hunger into the mastication of food. If the doctor says his muscles of mastication are present, there is no reason why he cannot chew. In fact, if he can open and close his mouth at all, he will be physically able to chew food. The usual cause for this trouble in babies is that coarse foods are delayed in their introduction until the child gets so used to the sieved foods that he objects to changing. 2. The baby's abnormality may be psychic not physical.

Inflammatory Nevus

To the Editor:—An inflammatory nevus has been twice operated on and repeatedly cauterized. Is such trouble curable?

J. A. M., Indiana.

Answer.—Nevi are seldom or never inflammatory in nature unless secondarily infected. The correct diagnosis depends entirely on a microscopic examination of the removed tissue. Ordinarily cellular nevi such as fleshy moles, particularly those in which there are hairs, are not potentially malignant. Blue-black or dark brown moles only rarely take on a malignant tendency, and for this reason any portion of a mole which is removed should be subjected to careful microscopic examination. With regard to treatment, if the mole is small it may be effectively removed by cauterization. If it is large or has shown evidence of growth, it is probably best removed by wide surgical excision.

Removal of Warts

To the Editor:—Certain remedies which in the past have been advertised for the removal of corns are now being advertised to remove warts. Would the removal of warts in this manner present any danger? I have been advised that every mole is the potential site of a cancer and that tampering with such growth is likely to encourage it to grow into malignancy.

A. E. B., New York.

Answer.—Removing warts by some external remedy which can be applied by the layman does not present the same danger of causing a malignancy or "cancer" to develop as may happen with moles. A suggested medical treatment for warts is the use of the x-rays. This does not break down the skin and leave a wound; it is efficient and does not inconvenience the patient. The diagnosis of warts and moles may be confusing and should be done by a medical man.

Breasts

To the Editor:—What is the effect of a needlepoint shower consisting of about twenty streams of water, applied directly to the breasts? Cold water is used. I have heard that this practice keeps the breasts firm. My friends are skeptical about its effect and claim that the results might be harmful.

G. R., New York.

Answer.—Such treatment may induce temporary contraction of muscular tissue with protrusion of the nipple, contraction of the blood vessels and gentle massage of the glands by the streams of water. Following the treatment there will result relaxation of the blood vessels and increased blood flow. The changes may possibly improve the nutrition of the gland. The results cannot be harmful, unless the treatment be carried to excessive chilling.

SHOULD COUSINS MARRY?

(Continued from page 1011)

mal cousins have six times as high a chance as two unrelated persons to produce a deaf child, although the chance in either case is statistically very small.

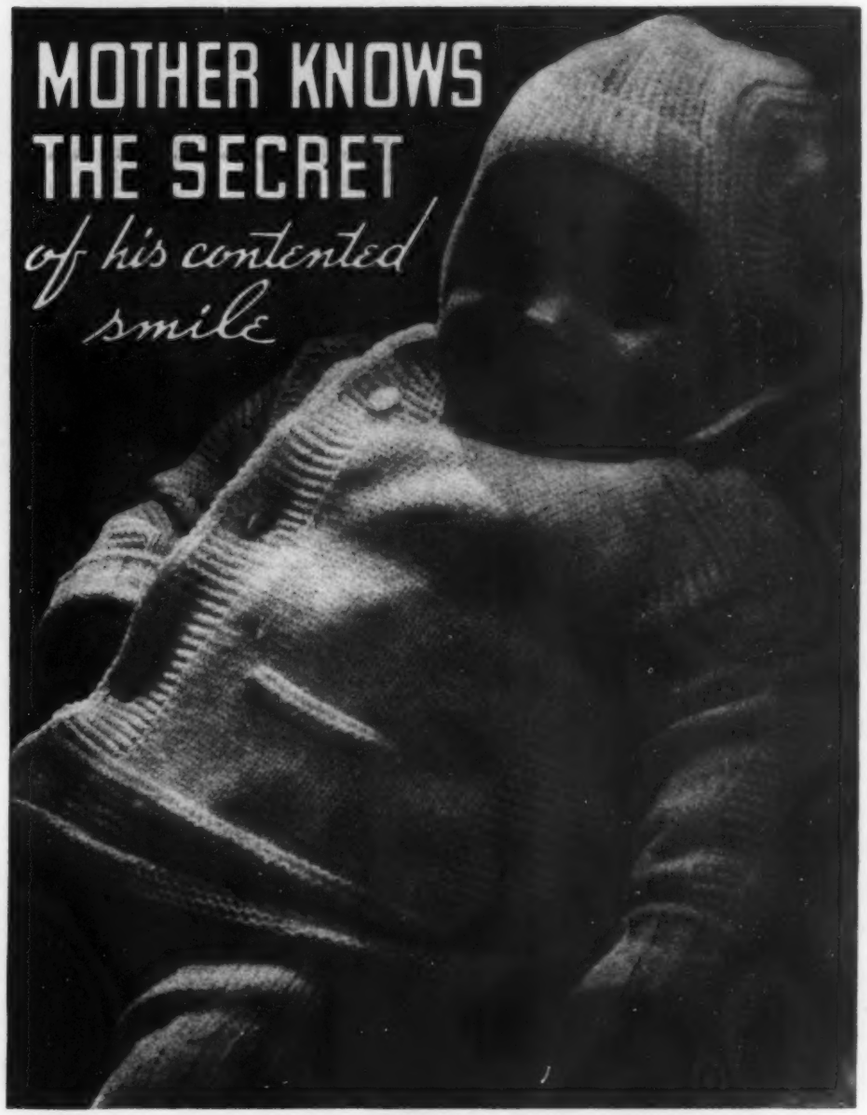
If one of the parties is actually affected or from an affected family, the chance of handicapping the offspring becomes serious and should be investigated carefully before betrothal. One must know the traits with which one is dealing; it is entirely possible for two persons, each the offspring of a blind or deaf parent, to marry with perfect safety, if the parent's defect is not of a hereditary nature. A decision therefore calls for an expert witness. One can be too pessimistic as well as too optimistic. Many of the ablest men of history have been the offspring of cousin marriages. An example often cited by biologists is that of Charles Darwin, who married his first cousin, Emma Wedgewood. Their seven children were all outstanding.

Probably not 1 marriage in 100 in the United States at the present time is between first cousins. Such marriages were commoner in an earlier period, and any one who has studied genealogy has probably encountered at least one case in his own pedigree.

The infrequency of cousin marriages now as compared with the colonial period is often explained as due to the fact that families now move around the country a good deal more; hence the young people have less opportunity to meet and fall in love at the proper time. But the main reason is probably that there are not so many cousins as there used to be. Families are smaller. To cite a personal illustration, my grandfather had sixty first cousins, I have six. On a mere basis of chance, therefore, he was ten times as likely as I to contract a cousin marriage. The fact that all my cousins are males takes the edge off my story but does not spoil its point.

In passing judgment on cousin marriage today, one should take at least three points of view:

1. Biologically, cousin marriages as such are no different from any other marriages. Their success depends on the kind of heredity the two partners carry. If both carry strong traits, the children get a double dose of these and are benefited accordingly. If both carry weak traits, the children are penalized to correspond. Hence cousin marriage should be considered desirable, biologically speaking, in



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Carnation Milk is noted for its easy digestibility. Due to special heat treatment, or sterilization, it forms fine, flaky curds in the baby's stomach—much like those of mother's milk. These soft curds are more readily digested than the tough, solid curds of ordinary milk. Homogenization of Carnation, also, makes assimilation easier.

Irradiated Carnation Milk, moreover, is as pure and nourishing as milk can be, and a good source of "sunshine" vitamin D—which helps baby absorb those essential bone-building, tooth-forming minerals that later will make him a strong, healthy child. Ask your doctor about this economical, good milk, that's accepted by the American Medical Association's Council on Foods.

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PLEASE SEE PAGE 961

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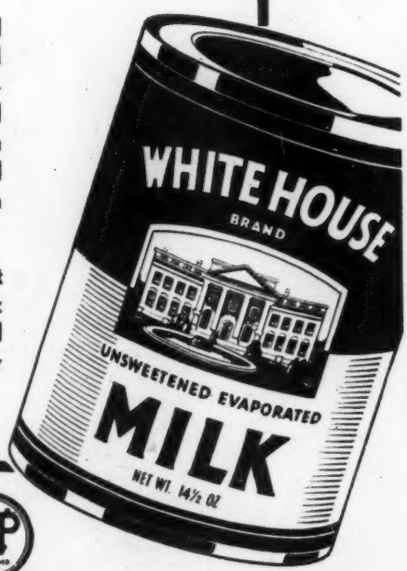

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strong stock but undesirable in weak stock. In practice, if two healthy and normal cousins come from sound families, with no evidence of serious inheritable defects for three generations on either side, there is no reason for discouraging them if they want to marry. No one can guarantee that their children will be flawless; no one can guarantee this for any of us in any sort of a mating. There is inevitably a small risk statistically about any parenthood. No one would avoid parentage for this reason, any more than he would spend his life indoors, because he knows that he runs a certain small statistical risk of death in an automobile accident every time he goes outdoors. Life cannot be lived at all without some risk.

A recent writer suggests that defectives be encouraged to marry not merely their cousins but even their brothers and sisters, in order to bring the defects to light in their progeny as soon as possible and weed them out, just as the live stock breeder does. Such an attempt to put mankind back in the barnyard is likely to find few advocates. If one comes of a really defective family, it is better not to have children at all, unless one is pretty sure to pass on to them such outstandingly valuable traits as to outweigh the risk of defect.

Beyond this, from the individual's own point of view it is eugenically better in most instances to select a partner from some other sound stock. This not only brings new and desirable traits into the family but helps to keep any undesirable ones from manifesting themselves.

2. Socially, the individual usually has most to gain by going outside his own kindred. A cousin marriage does not bring about the union of two different family circles, with its added extensions of influence, friendship and support. It usually indicates an unduly narrow circle of acquaintance of the young people, suggesting that they have not had a normal social life with ample range of friendships. Indeed, the largest number of cousin marriages probably is found in isolated communities and mountain valleys, where the population is made up of related families. Since these isolated communities are likely to contain an excess of deficient persons, the more intelligent and energetic having moved away, the result of such marriages is the production of many defective children. These defects are then blamed on consanguinity when they are due really to the fact that

the population in which these cousin marriages occur is of low grade and contains many inherited defects.

Cousin marriages occur not merely where a group is isolated geographically but where it is isolated by racial, religious or economic barriers. It is more frequent than usual among Parsees of India, among the Jews in some parts of Europe and among the Gipsies. A high rate of infant mortality, which destroys the weaklings, probably has helped to prevent accumulation of defects and to leave a strong stock in each of these cases.

3. Psychologically, the man who wants to marry his cousin is sometimes recognized as handicapped by too narrow an outlook, perhaps by a mother fixation. Unduly sheltered, unsure of himself, afraid to face the wider world, he feels more secure if he marries a girl who is a member of his own family. With her, he hopes he will have to make fewer new mental adjustments. She will understand and sympathize with his background. Correspondingly, such marriages are often very happy.

In the opinion of most eugenists legal restrictions on cousin marriage should be removed. Such matings are scarcely to be encouraged, for the social and psychologic reasons already stated. But if two healthy cousins of sound ancestry want to marry, there is no good reason why society should forbid them to do so.

NEW ORLEANS CHARITY HOSPITAL

(Continued from page 992)

directress, who was recently nominated by the Nurses of Louisiana for the Saunders Award, given to an outstanding person in the nursing profession. This award will be made next year.

For fifty-three years, Sister Stanislaus has devoted her life to humanitarian work right in Charity Hospital, and for that reason she is often called New Orlean's most beloved woman. The medical men of all creeds regard her with reverent affection.

At the celebration of her Golden Jubilee one of the surgeons in honoring her said, "When I came to the Charity Hospital as an intern of the class of 1877-78, I was a mere youth of 17 and had no conception of the magnificent background of history that rises in luminous perspective to establish the importance of the Sisters of

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Charity in their beneficent rôle in hospital administration." And in speaking of the epidemic of 1878, he said, "The scenes I witnessed in that frightful ordeal will remain graven and indelible in my memory; but out of that surge of horror, and out of that dark valley of despair, the hallowed image of the Sisters of Charity at the bedside of the saffron-tinged victims of the Black Vomit will ever rise in the full radiance of the faith, the hope and the courage that they inspired." He then went on to say that in 1883, Sister Stanislaus had come to the hospital as the new recruit. "I was then a visiting surgeon, and well do I remember her in the full vigor and grace of her seventeen summers. A petite, vivacious and agile figure flitting about the hospital as a white winged messenger of her Superior, Sister Agnes."

A recent newspaper editorial said of this truly remarkable woman, "She has the brains of a man with the heart of a woman. She meets hard situations with the toughness of a top-sergeant in the army, as readily and naturally as she brings love and tenderness to the bedside of a dying child."

And now these structures, for some of which Sister Stanislaus carried bricks, are to be razed for the great, new $8,000,000 plant, made possible under a PWA grant. Last year, President Roosevelt approved a direct grant of $3,600,000 for the project. The state is to finance the remainder through a bond issue authorized by the Louisiana legislature. The state board of health and the city fire marshal have condemned the old buildings, so rich in tradition, as unsafe. A twenty story hospital is rising in their stead.

The principal building of the new group will be in the form of an "H." There will be separate buildings for infectious diseases, tuberculosis, a laundry, a nurses' home, a repair shop, an ambulance house and other essential departments. There will be a bed capacity for over 2,000 patients. It is estimated that approximately 55 per cent of the beds will be for white and 45 per cent for the Negro patients.

Thus a timely grant of PWA renders possible the continuance and enlargement of the benevolent work of the oldest charity hospital in the United States—one which step by step and year by year has grown from a hovel, housing a few indigent poor, to the present refuge for the sick poor, one of the largest in the country, originating from the bequest of a modest sea-faring man.

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